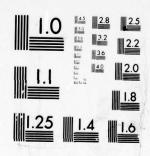


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# NONDESTRUCTIVE EVALUATION OF AIRPORT PAVEMENTS

VOLUME II

OPERATION MANUAL FOR PAVBEN PROGRAM AT TCC

BY

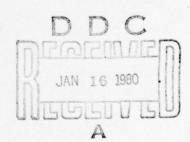
DAVID YANG

NAI C. YANG & ASSOCIATES, ENGINEERS

STATIES OF MANSOON AND STATIES OF MANSOON AND

SEPTEMBER 1979

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Prepared for

# U.S. DEPARTMENT OF TRANSPORTATION

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tion logic. The program is w	ritten in a high level la	mathematical mod	ers and opera-
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The default system cont	ains all design data for;	(1) 15 air transp	orts; 2) 9 FAA
regional cost values; (3) 8 ty	pes of pavement design: 4	) 22 layer compon	ents; (5) 20
types of existing pavement an	d 6) universal mechanisti	c design model.	
The major outputs will	be: (1) NDT inventory file	: (2) present func	tional life:
3) computed engineering data;	(4) pavement thickness an	d cost data and 5	) cost/benefit
analysis for four new pavemen	ts, three overlays and th	ree keel construc	tions.
The operation of PAVBEN	program involves extensi	ve use of data st	orage filing
technique and computed data i	nputs. The current opera	tion program and	this manual
are prepared for the executio	n on computer hardware sy	stem at TCC. Mod	ification of
these documents will be requi	red if other computer sys	tem is to be used	• /
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### OPERATION MANUAL FOR PAVBEN PROGRAM AT TCC

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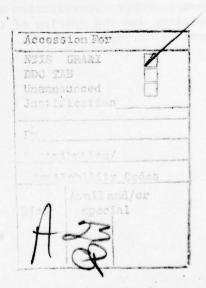
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### OPERATION LOGICS, PROGRAM LANGUAGE AND COMPUTER SYSTEM

Cost/benefit analysis of alternative pavement designs is the primary goal of the PAVBEN program operation at Transportation Computer Center (TCC) in Washington, D.C. The program in its present form is an integrated system for the nondestructive evaluation and functional design of airport pavements. The system outputs are designed to provide qualitative information for airport management and pavement engineers. The integrated programs are data independent, but are based on defined mathematical models and sound operational logic.

The model parameters, operational details and values to be processed, form a set of input data which is defined through the use of natural language heading statements and requires no programming experience on the part of the user. For the operational program at TCC, the input data is divided into job oriented and universal default inputs. The job inputs are unique for each airport. The default system contains data which generally do not change for each airport.

For actual computer operation, the key subroutine is PAVDES which is a single executable program accepting inputs in the form of cards and needs the use of temporary files on auxiliary storage. Because the present program was progressively developed from the early PAVDES in 1969, the words PAVBEN and PAVDES are interchangeable in the text. Currently, PAVDES is operational on the UNIVAC 1108 and IBM 360/65. The program is written in a high level language FORTRAN IV. However, the control cards and the storage files must be in compliance with the computer hardware system. In appendix 2, descriptions are given on the job control cards necessary for running PAVDES on the IBM 360/65 at TCC.



### FORMAT OF USER'S INPUT

The program accepts input in the form of 80 character cards. The input cards are divided into two types: program control cards and cards in data groups. The control cards specify the program sections to be executed. The data groups provide the actual data values for program processing. Unless otherwise specified, each card is logically divided into eight fields of ten characters each. Each control card has a single keyword in field on which identifies itself both to the program and the user as a control card. Additional fields on a control card are used to provide related information.

Logically related input cards are placed together in data groups. The first card or cards are descriptive heading cards. The number of heading cards is fixed and the user should not add or delete any heading card. One of the heading cards is usually a field identifier card. On this card, each field has an acronym which identifies the data values on subsequent cards in that field. For more detail description, the particular field identifier can be found in the dictionary. Following the heading cards are the cards containing the actual data values corresponding to the field identifier. The order of cards in the group is important. The last card of data group is a delimitor card containing, \* \* in columns 1 and 2.

Values in a field have three definitions: integer, floating point or alphanumeric. They are expressed respectively by blanks and numbers, 0 to 9: blanks, the minus or plus sign, decimal point and the numbers 0 to 9; and all characters. Certain fields have only specific values allowable. Unless otherwise specified all values should be left justified in a field. This is especially important for alphanumeric fields. Blanks in floating point fields are interpreted as zeros. If a decimal point is omitted in a floating point field, the decimal is assumed to be after the rightmost column in that field. Certain field has subfields. The subfields are separated by slashes, /. The slash must appear in the exact column, as specified. To ensure proper recognization of the control cards and the data groups, the spelling and the spacing of the control keywords and heading descriptions must be correct.

### PROGRAM CONTROL CARDS

The user controls the data processing by means of card inputs. All PAVBEN control cards have two portions (1) control keyword field in columns 1 to 10 and (2) specification field or fields in columns 11 to 80 containing values or additional keywords required by the particular control card being used.

### There are 7 control keywords:

	USER	Starting from column 11 is a 12-character user name.
2.	JOBCODE	Starting from column 11 are 7 characters to be printed in block letters on title page. Usually 3-letter airport code, dash, and 3-letter FAA regional code.
3.	JOB	Starting from column 11 is a 70-character space for job name. Usually airport, dash, FAA region.
4.	RUN	Field 2 identifies the program to be executed. There are 5 allowable keywords: NDT1, NDT2, NDT3, PFL, and PAVDES. There is an additional field associated with NDT1. Field 3 may contain blanks or PLOT. If PLOT is specified, the printer will plot NDT machine data.
5.	PRINT	There are 2 allowable keywords in field 2: DICTIONARY - prints all dictionary items in sorted groups. INPUT - prints control cards and job inputs.
6.	SITE	Starting from column 11 is 4-character site code. For TCC operation, this card is in the default system of inputs and is in the form of SITE TCC.
7.	LINE	In column 11 is a single digit number indicates the lines skipped by the operating system on a printed page. For TCC operation, this card is in the default system of inputs and is LINE 1.

4 5 6 8 8 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38	39 40 41 42 43 44 45 45 47 48 49 50 51 52 53	54 55 56 67 56 59 50 61 62 63 64 65 65 107 86 69 70 71 72 73 74 75 75 75 76 79 80
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. 2.

### JOB INPUTS - NDT DATA PROCESSING

NDT	GRID IDENTIFIC	ATIONS
FIELD 1 2	IDENTIFIER GRID CODE	DESCRIPTIONS defines 1 char. GRID identifier, A to Z defines 9 char. GRID code
NDT	CALIBRATIONS	
FIELD 1 2 3 4 5 6 7 8	IDENTIFIER DATE TIME/CAL. RESPONSE AMPLITUDE RES@ZERO AMP@ZERO RES@CALIB AMP@CALIB	DESCRIPTIONS has 3 subfields, month, day and year has 3 subfields, day, time, and calibration index response calibration, if blank, computes from RES@ZERO and RES@CALIB amplitude calibration, if blank, computes from AMP@ZERO and AMP@CALIB machine test data machine test data machine test data machine test data
NDT	TEST IDENTIFIC	ATIONS
FIELD 1	INDENTIFIER TEST	DESCRIPTIONS defines test number, such as 8. Any repeated tests must have unique number, but can be identified by a sequence number. 8-1 for example. Test number can range from 1 to 999 with each number having a sequence number from 0 to 9. If test does not have sequence number then it is interpreted as 0. Sequence number, if any, must appear in Column 5. The test number must appear in the first three columns.
2	LOCATION	9 char. location code having 5 subfields; lst char. grid identifier 5 char. station code 1 char. offset identifier
3 4 5 6	TIME/CAL. TEMP. DSM(W) LOAD/RAD.	2 char. offset identifier 2 char. offset code 3 subfields, day, time, calibration index temperature readings DSM test data, kips per inch 2 subfields, peak to peak forcing function, lbs. radius of load plate, inches
7	PFLPAV	2 subfields, PFLPAV index PFLPAV Code
8	DRAINAGE	drainage code, NORM or WET

NDT	MACHINE DATA		
FIELD	IDENTIFIER	COLUMNS	DESCRIPTION
1	NO	1-5	test number
2	RESPNS	7-12	response at test frequency
3	AMPL	14-19	amplitude at test frequency
4	FREQ	21-26	test frequency
5	RESPNS	28-33	
6	AMPL	35-40	
7	FREQ	42-47	
8	RESPNS	49-54	
9	AMPL	56-61	
10	FREQ	63-68	

FREQ should not be repeated. Freq. in decreasing order. Do not leave any fields blank between frequency.

NDT2	STATISTICAL	PROCESS	OF	NDT	DATA

FIELD 1 2	IDENTIFIER PLOT	COLUMNS 1-10 11-70	DESCRIPTION defines NDT2 plot defines title of plot
1 2		1-5 6-12	GRID AVERAGE defines the statistical processing of group NDT data and NDT2 plotting. Blank defines just NDT2 plotting.
1		1-3	GRID identifier
2		5	Number of 5 char. station code
3		7	Number of 2 char. offset code
4		11-20	5 char. station code, starting from low station.
5		21-30	
6		31-40	
7		41-50	
8		51-60	10 column field. Continuation cards if necessary.
9		61-70	

### CONTINUATION CARD

Continue 5 char. station code in 10 column field.

Following last station code, defines 2 char. offset code at low starting number, then, the last offset code in the next 10-column field.

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### JOB INPUTS - THICKNESS DESIGN AND COST-BENEFIT ANALYSIS

### FACILITY AND STATION IDENTIFICATIONS

FIELD	IDENTIFIERS	DESCRIPTIONS
1	FACILITY	defines FACILITY index, 1 to 50
2	CODE	defines 9 char. FACILITY code, first 2 char.
		identify facility type code
3	STA-FROM	min. 5 char. station code in hundreds of feet
4	STA-TO	max. 5 char. station code in hundreds of feet

### STATISTICALLY PROCESSED NDT GROUP DATA

FIELD	IDENTIFIERS	DESCRIPTION
1	FACILITY	FACILITY index
2	STA-FROM	min. 5 char. station code
3	STA-TO	max. 5 char. station code
4	SUMZ	blank
5	EVALUE	NDT E-value from NDT2 AREA-E, psi
6	DRAINAGE	DRAINAGE code, NORM or WET
7	TEMP.	temperature
8	PFLPAV	2 subfields, PFLPAV index, PFLPAV code
Max.	number of STA-FROM	and STA-TO is 7.

### OPERATIONAL AIRCRAFT WEIGHTS

FIELD	IDENTIFIER	DESCRIPTION
1	AIRCRAFT	AIRCRAFT index
2	CODE	9 char. AIRCRAFT code
3	RANGE	range of aircraft; XLONG, LONG, MEDIUM, SHORT
4	LOAD FACTOR	load factor of aircraft; HIGH, MEDIUM

### AVERAGE DAILY MOVEMENTS

Heading Card 1, Columns 11 to 20 contain the 6 char. ADM code. Heading Card 2, Defines aircraft movements

FIELD	IDENTIFIER	DESCRIPTION
1	AIRCRAFT	AIRCRAFT index
2	year	previous year's traffic
3	year + 1	current year's traffic
4	year + 6	5 year ADM
5	year + 11	10 year ADM
6	year + 16	15 year ADM
7	year + 21	20 year ADM
All air than le	craft indexs must eave columns under	appear. If aircraft does not have any traffic the years blank.

### AIRPORT TRAFFIC DISTRIBUTION

Heading card 1, columns 11 to 20 contain the 6 char. ATD code

FIELD	IDENTIFIER	DESCRIPTION
1	FACILITY	FACILITY index
2	STA-FROM	min. 5 char. station code
3	STA-TO	max. 5 char. station code
4	YEAR	year + 1 as defined in ADM
5	TOW%	percentage of take-off
6	LRW%	percentage of landing roll
7	TDW%	percentage of touchdown

YEAR should match the one defined in ADM. A given traffic distribution may change from year to year. Each sta-from and sta-to for a facility must have the same number of years. For example, FACILITY 1 defines a changed traffic distribution from 1978 to 1983 to 1998, and FACILITY 13 defines a new facility with no traffic from 1978 to 1983 but with traffic from 1983 to 1998.

### REGIONAL COST VALUES

FIELD	IDENTIFIER	DESCRIPTION
1	COST	defines COST index 1 to 25
2	CODE	defines 6 char. cost code
3	DATE	date of cost values, month/date/year
4	3 char. airpo	rt code and then cost value for each index.
If regi	onal default c	ost values are used, defines 3 char. FAA regional
	field 4.	

### PFL PRESENT FUNCTIONAL LIFE

FIELD	IDENTIFIER	DESCRIPTION
1	FACILITY	FACILITY index
2	SERVYR	service year must be greater than 1 year
3	BANDWIDTH .	BANDWIDTH index
4	FORECAST	FORECAST code
Control is run		of facilities that will be printed when the PFL program

### PAVDES PAVEMENT DESIGN

FIELD	IDENTIFIER	DESCRIPTION
1	FACILITY	FACILITY index
2	SERVYR	service year in 5, 10, 15 or 20 years
3	BANDWIDTH	BANDWIDTH index
4	FORECAST	FORECAST code
Controls	s the number of	facilities which will be printed when the PAVDES
program	is run. Facil:	ity number may be repeated to get several different
designs	for the same fa	acility.

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### LISTING OF DEFAULT INPUTS

### DICTIONARY OF COMPUTER PROGRAM CODES

FIELD	COLUMNS	DESCRIPTION
1	1-6	defines 6 character identifier
2	7-78	defines 72 character identifier description

Dictionary has several subgroups. The first card of subgroup has a blank identifier with the subgroup heading in field two. The last card of a subgroup is a blank card.

### REGIONAL COST VALUES

FIELD	IDENTIFIER	DESCRIPTION
1	COST	defines cost index 1 to 25
2	CODE	defines 6 character cost code
3	DATE	date of cost values, month/date/year
4	REGION CODE	cost value for the region coded
5	REGION CODE	
6	REGION CODE	
7	REGION CODE	
8	REGION CODE	

There may be more than one data group. Each data group may have one or more regions. The region code is 4 characters long. The cost values of the last region on the last data group will be used in the computations. To use earlier defined regional cost values, the region to be the last region must be defined. See input for example, that the region ANE is defined to be the last region.

### FACILITY TYPES

FIELD	IDENTIFIER	DESCRIPTION
1	TYPE	defines index 1 to 5
2	FACILITY	defines 2 character code
3	FACILITY	defines additional 2 character code
4	FACILITY	for example, the first two characters
5	FACILITY	of RUNWAY is the facility type code.
6	FACILITY	

### BANDWIDTH FOR TRAFFIC DISTRIBUTION

FIELD	IDENTIFIER	DESCRIPTION
1	BANDWIDTH	defines bandwidth index 1 to 5
2+3	CODE	defines 12 character BANDWIDTH code
4	RW	bandwidth in feet
5	TW	bandwidth in feet
6	HP	bandwidth in feet

### DYNAMIC INCREMENT OF AIRCRAFT VIBRATION

FIELD	IDENTIFIER	DESCRIPTION
1	DI	facility type location, keel or side
2	RW	dynamic increment, in g
3	TW	dynamic increment, in g
4	HP	dynamic increment, in g

## VELOCITY OF AIRCRAFT

FIELD	IDENTIFIER	DESCRIPTION
1	VEL	facility type location, keel or side
2	RW	aircraft velocity in knots
3	TW	aircraft velocity in knots
4	HP	aircraft velocity in knots

### AIRCRAFT DATA GROUP

FIELD	IDENTIFIER	DESCRIPTION
1	AIRCRAFT	defines index, 1 to 20
2	CODE	defines 9 char. AIRCRAFT code
3	MTOW	max. take-off weight, lbs.
4	MLRW	max. landing roll weight, lbs.
5	OEW	operational empty weight, 1bs.
6	RANGE	range of aircraft, XLONG, LONG, MEDIUM, or SHORT
1	BLANK	
2	BLANK	
3	MLG	main landing gear weight as fraction of MTOW
4	WGT	single wheel weight as fraction of MTOW
5	PSI	tire pressure, psi
6	FREQ	natural frequency of rubber tire, Hz
7	NWHEEL	number of wheels of MLGS
8	XMAX	distance between outer wheels, inches.
1	BLANK	All the second of the second o
2	BLANK	2 Company of the second
3	WHEEL	NWHEEL transverse coordinates
4	X-COORD	number of cards is the integer of (NWHEEL-1)/6 plus 1.
5		
6		
7		
8		
1	BLANK	
2	BLANK	
3	WHEEL	NWHEEL longitudinal coordinates
4	Y-COORD	number of cards is the integer of (NWHEEL-1)/6 plus 1.
5	· COOKE	named of cards to the Integer of (mindal 1)/0 prus 1.
6		
7		
8		

### TOW AIRCRAFT TAKE-OFF WEIGHT

Columns 1-10 of 2nd heading card identifies the aircraft load factor; Third heading card shows title of input listing RANGE OF AIRCRAFT.

FIELD	IDENTIFIER	DESCRIPTION
1	AIRCRAFT	define AIRCRAFT index
2	XLONG	aircraft weight in lbs. for load factor and range
3	LONG	aircraft weight in lbs. for load factor and range
4	MEDIUM	aircraft weight in lbs. for load factor and range
5	SHORT	aircraft weight in lbs. for load factor and range

### FINANCIAL COST DATA

FIELD	IDENTIFIER	DESCRIPTION
1	FINANCE	blank
2	AIRB	annual interest rate of bond
3	ARCD	annual rate of cash discount
4	ASCCC	annual escalation rate of construction cost
5	ASCMC	annual escalation rate of maintenance need
6	NBL	maturity of revenue band in years
7	NSLP	mortgage payments of bond, in years

### DEMAND FORECAST

FIELD	IDENTIFIER	DESCRIPTION
1	FORECAST	defines 6 char. FORECAST code
2	ADM	defines 6 char. ADM code
3	ATD	defines 6 char. ATD code

### PFLDI, smoothness of pavement surface

FIELD	IDENTIFIER	DESCRIPTION
1	Col. 1-10	defines DI for deflection analysis
2	Col. 11-50	defines 40 char. smoothness description

### DESIGN AIRCRAFT

FIELD	IDENTIFIER	DESCRIPTION		
1	DESIGN	blank		
2	AIRCRAFT	aircraft index to be used as design standard		
3	WEIGHT	aircraft weight in lbs. to be used		

### CLASS, identification for design coefficients

FIELD	IDENTIFIER	DESCRIPTION
1	CLASS	defines CLASS index 1 to 20
2	CODE	defines 6 char. CLASS code
3	OVSFKL	overstress factor for keel
4	OVSFSD	overstress factor for side
5	STRESS	conversion factor from E-value to tensile stress
6	FATIST	coef. of fatigue stress
7	COVAR	coef. of variance
8	A1	coef. of transfer function (trans. to long def.)
1	BLANK	
2	BLANK	
3	A2	coef. of transfer function (trans. to long def.)
4	D1	coef. of transfer function (elastic to cumulative)
5	D2	coef. of transfer function (elastic to cumulative)
6	DC	coef. of contact rigidity

### LAYER, identification for default E-value and Poisson's ratio

FIELD	IDENTIFIER	DESCRIPTION
1	LAYER	defines LAYER index 1 to 25
2	CODE	defines 6 char. LAYER code
3	EVALUE	default E-value of layer
4	POISSON	default Poisson ratio of layer; if blank default Poisson ratio will be computed from E-value
5	MOD(S)	mobilization and demobilization cost for small job
6	MOD(N)	mobilization and demobilization cost for normal size of work.

### LAYER COST DATA GROUP

FIELD	IDENTIFIER	DESCRIPTION
1	LAYER	defines LAYER index
2	PCBT	coef. for computing unit price of the layer
3	FIAGT	
4	COAGT	
5	ASCLT	
6	HLBT	
7	POZBT	
8	SFST	

### Continuation Card

1	BLANK									
2	IWFAT	coef.	for	computing	unit	price	of	the	layer	
3	RSWLB									
4	LBBR									
5	CLHR									
6	SLEHR									

### PAVEMENT DATE GROUP

FIELD	IDENTIFIER	DESCRIPTION
1	PAVEMENT	defines PAVEMENT index 1 to 20
2	CODE	defines 6 char. PAVEMENT code
3	LAYER	defines code of layer composition
4	THICKNESS	default thickness of layer, inches
5	EVALUE	if blank, use default E-value
6	POISSON	if blank, use default poisson
Last c	ard in each def	ined pavement must have a layer code of SUB, PAV or
PFLPAV	. SUB defines	new pavement on subgrade; PAV defines overlay
		pavement which is treated as one layer; PFLPAV defines
paveme	nt on existing	

### DESIGN CHARTS - LAYER THICKNESSES

FIELD	IDENTIFIER	DESCRIPTION
1	ITERATE	blank
2	PAVEMENT	PAVEMENT index
3	LAYER	LAYER code
4	HMIN	min. thickness of design chart, inches
5	HMAX	max. thickness of design chart, inches
6	HSTEP	thickness increment of design chart, inches

# NEW PAVEMENT ESUB GRID VALUES

FIELD

DESCRIPTION

1 to 8

subgrade E-values of design charts for new pavement and overlay pavements on actual existing pavement.

Continuation card also has same format.

number of cards = the integer of (number of E-values -1)/8 plus 1.

max. number of E-values = 20.

# OVERLAY PAVEMENT EPAV GRID VALUES

FIELD

DESCRIPTION

1 to 8

E-values for overlay pavements on existing pavement

which is treated as a single layer support.

Continuation card also has same format.

number of cards = the integer of (number of E-values -1)/8 plus 1.

max. number of E-values = 20.

Care should be taken in having E-values different from that of bottom layer of new pavements, i.e., the E-value of bottom layer of new pavement to be designed shall be different from the E-value of existing pavement.

# CODES OF KEEL AND SIDE

FIELD	IDENTIFIER	DESCRIPTION
1	PAVEMENT	blank
2	NUMBER	blank
3	KEEL	defines pavement index for keel
4	SIDE	defines pavement index for side

# EXISTING PAVEMENT DATA GROUP

FIELD	IDENTIFIER	DESCRIPTION
1	PFLPAV	defines PFLPAV index, 1 to 20
2	CODE	defines 6 char. PFLPAV code
3	LAYER	LAYER code
4	THICKNESS	thickness of layer, inches
5	EVALUE	if blank, default value is used
6	POISSON	if blank, default value is used
Each 1	PFLPAV must end	with a LAYER code SUB.

#### PFLPAV ESUB GRID VALUES

FIELD

DESCRIPTION

1 to 8

subgrade E-value for PFLPAV deflection and stress

chart

Continuation card also has same format.

number of cards = the integer of (number of E-values -1)/8 plus 1.

max. number of E-values = 20.

# PFLPAV DESIGN CHARTS CONTROL GROUP DATA

FIELD	IDENTIFIER
LILLID	IDENTIFIER

DESCRIPTION

1 **PFLPAV** 2 CLASS

PFLPAV index CLASS code for design coefficients

3 LAYER FOR

STR/MT

LAYER code for governing stress condition

# PFLPAV IN AIRCRAFT EQUIVALENCY FOR PFL

FIELD	IDENTIFIER

DESCRIPTION

CLASS 1

CLASS index

PFLPAV FOR

AND/ANS

PFLPAV index

# PAVEMENT IN AIRCRAFT EQUIVALENCY FOR THICKNESS DESIGN

FIELD	IDENTIFIER	DESCRIPT

1 CLASS

TION CLASS index

CLASS code

2 PAVEMENT PAVEMENT index

3 PFLPAV FOR

AND/ANS

PFLPAV index, (0 indicates subgrade)

Both PAVEMENT and PFLPAV indexes are used to define the representative pavement to be used in aircraft equivalency for thickness design.

# DESIGN CHARTS FOR LIMITING DEFLECTION AND STRESS

FIELD	IDENTIFIER	DE

SCRIPTION 1 PAVEMENT PAVEMENT index 2 PFLPAV PFLPAV index

3 CLASS

LAYER FOR

STR/MT LAYER code for governing stress condition.

SITE . TCC CICTICNARY . A. TYPE OF PAVENENT ASPHALT PAVEMENT ASPHALI PAVEMENT WITH CIE ACC. ACTAC ASPEALT LVERLAY ON EXISTING ASPHALT PAVEMENT AC/CC ASPEALT LIVERLAY ON EXISTING CONCRETE PAVEMENT AC/CCAASPHALT GVERLAY ON CONCRETE PAVEMENT AC/PAVASPHALT GVERLAY CUNCRETE PAVEMENT CC LLA CENCRETE PAVEMENT WITH AGES CC/AC CUNCRETE OVERLAY ON EXISTING ASPHALT PAVEMENT CC/CL CONCRETE OVERLAY ON EXISTING CONCRETE PAVEMENT CL/PAVCENCHETE LVERLAY CCL RCLLED LEAN CONCRETE BASE PAVEMENT LIME-CEPENT-FLYASH PAVEMENT LCF LCFS LCF AITH INCUSTRY WASTE AS PAVEMENT AGGREGATE LLF/ACLCF CVENLAY CN EXISTING ASPHALT PAVEMENT LCF/CCLCF CVERLAY IN EXISTING CONCRETE PAVEMENT LC/PAVLCF CVERLAY

B. PAVEMENT COMPONENTS AGBS AGGREGATE BASE CUURSE, P-206 TO P-214, P-217 ASUS ASPHALT BASE COURSE, P-201 ASTU ASPHALT TREATED BASE, P-215, P-216 ASTCP ASPHALT TCP COURSE, F-401, F-408 CIE CEMENT TREATED BASE, F-3CL, P-304 EXAC EXISTING ASPHALT LAYER EXACUTEXISTING ASPHALT CVERLAY EXESA EXISTING BASE OF ASPHALT PAVEMENT EXESC EXISTING BASE OF CONCRETE PAVEMENT EXPC EXISTING PURTLAND CEMENT CONCRETE LAYER EXPOUVEXISTING PORTLAND CEMENT CONCRETE OVERLAY LCFA LCF-A MIX WITH NATURAL AGGREGATE LCFC LCF-C MIX WITH NATURAL AGGREGATE LCFSA LCFS-A MIX WITH INDUSTRY WASTE AGGREGATE LCFS8 LCFS-8 MIX WITH INULSTRY WASTE AGGREGATE LCFSC LCFS-C MIX WITH INDUSTRY WASTE AGGREGATE LISUB LIME TREATED SUBGRACE, P-155 PAV EXISTING PAVEMENT PERTLAND CEMENT CLNCRETE, P-501 PLL PCCK REINFORCED PORTLAND CEMENT CONCRETE, P-501, P-610 PFLPAVEXISTING PAVEMENT KLC KLLLED LEAN CUNCRETE SSUS SELECTED SCE-BASE, P-154 SUBGRADE SUFPERT SLE

C. PAVEMENT AREA END PERTIEN OF RUNWAY AT LANDING ROLL ENC FCLDING PAD HP CENTER STRIP OF RUNNAY CR TAXINAY KEEL LCC LECATION MIU MID PERTION OF RUNWAY OR TAXINAY RH RUNHAY SIDE FACTOR FOR UNIFORM PAVEMENT CROSS-SECTION SCFC SIDE STRIPS OF RUNNAY OR TAXINAY SILE TOUCH DOWN AREA IC TN TERMINAL TAKINAY XIh CROSS TAXINAY

D. FUNCTIONAL GLACITICA FOR AIRCRAFT MOVEMENT

A1,A2 CLEFFICIENTS OF THANSFER FUNCTION (TRANSVERSE TO LONG. DEFLECTION)

AAND EQUIVALENT LOAD REPETITIONS OF ALL AIRCRAFT — DEFLECTION CRITERIA

AND EQUIVALENT LOAD REPETITIONS OF ALL AIRCRAFT — STRESS CRITERIA

AND EQUIVALENT LOAD REPETITIONS OF ONE TYPE OF AIRCRAFT — DEFLECTION

AND ANTICIPATED SERVICE LIFE IN LOAD REPETITIONS — DEFLECTION CRITERIA

AND EQUIVALENT LOAD REPETITIONS OF ONE TYPE OF AIRCRAFT — STRESS CRITERIA

APX TRANSVERSE DIRECTION PROCEABILITY DISTRIBUTION OF WHEEL LOAD

APY LUNGITUDINAL DIRECTION PROCEABILITY DISTRIBUTION OF LANDING IMPACT

COEFF. OF CONTACT RIGIDITY

2

DEF/DIPAVEMENT FUNCTION GOVERNED BY SURFACE DEFLECTION AND AIRCHAFT VIBRATION DEF/WZPAVEMENT FUNCITON GLVERNED BY SURFACE DEFLECTION UI, 02 CCEFFICIENTS OF THANSFER FUNCTION TELASTIC TO CUMULATIVE DEFORMATION) CUEFFICIENT DZ AT INITIAL STAGE OF TRANSVERSE DEFORMATION FOR PFL STUDY L3 115 INSTRUMENT LANCING SYSTEM LIGHTSIN PAVEMENT LIGHTING SYSTEM NERM NERMAL AIMPERT NAVIGATION SIGNS ASLP EFFECTIVE FUNCTIONALISERVICE) LIFE OF PAVEMENT, NUMBER OF YEARS PFL PRESENT FUNCTIONAL LIFE IN YEARS OF AIRCRAFT MOVEMENT (ANDA/AAND) PFLPAVEXISTING PAVEMENT FOR PFL ANALYSIS STREATPAVEMENT FUNCTION GEVERNED BY WORKING STRESS AND MAINTENANCE NEEDS SERVYRUESIGN FUNCTIONALISERVICE) LIFE IN YEARS VISUALVISUAL LANDING SYSTEM >5.00 ANCA/AANC>5.

E. AIRCRAFT FILE ALF AIRCRAFT LCAD FACTUR DYNAMIC INCREMENT OF AIRCRAFT VIBRATION AT PAVEMENT-WHEEL INTERFACE 10 LFh OPERATING EMPTY WEIGHT OF AIRCRAFT EQUIVALENT SINGLE WHEEL LCAC ESh ESAL EGUIVALENT SINGLE WHEEL LCAC FACTURINFLUENCE FACTOR OF ALL AIRCRAFT WHEELS FREG NATURAL PREGUENCY OF AIRCRAFT GEAR SUPPORT ON PAVEMENT LRn LANCING RELL MEIGHT MAIN LANDING GEAR LCAD OF AIRCRAFT PLG MLRA MAX. LANCING REIGHT OF AIRCRAFT MILA MAX. TAKE-OFF WEIGHT OF AIRCRAFT NAMEELNUMEER OF MLG WHEELS PER AIRCRAFT CEN UPERATILNAL EMPTY WEIGHT OF AIRCRAFT BLARCING FACTOR PLF TIRE PHESSURE PSI RADILSRAJILS OF CONTACT AREA OF AIRCRAFT MLG WHEEL KANGE DISTANCE RANGE OF AIRCRAFT (SHURT, MEDIUM, LONG) RGF RANGE FACTOR RPHT KAMP WEIGHT CF AIRCRAFT TCUCH-DEAN WEIGHT TCh TCh TAKE-GFF WE IGHT VELECITY OF AIRCRAFT EQUIVALENT TO FULL STATIC LGAD WITHOUT WING LIFT VEL WEIGHT OF MIG PER TIRE nCI XMAX DISTANCE BETWEEN CUTERMEST WHEELS TRANSVERSE WHEEL SPACING OF THE LANCING GEAR XAZ

F. MATERIAL FILE ACSTR ACTUAL MURKING TENSILE STRESS CLVAR CLEFFICIENT OF VARIANCE - MATERIAL STRENGTH DHY CRY DASE EPAV E-VALUE OF EXISTING PAVEMENT ESLE E-VALLE OF SUBGRACE E-SUP E-VALUE OF PAVEMENT SUPFORT (SUBGRADE OR EXISTING PAVEMENT) FATISTCCEFFICIENT OF FATIGUE STRESS (LCG CYCLE) HSTRS STRESS AT DESIGN LAYER OF PAVEMENT MUDEL FROM GELS INFI SEMI-INFINITE THICKNESS OF SUPPORT LAYER OF PAVEMENT MODEL NCRM NCRMAL CRY CPERATION GYSFKLOVERSTRESS FACTOR FOR KEEL OR OTHER UNDEFINED AREA CVSFSCUVERSTRESS FACTOR FOR SICES SIGMA HCKIZCHTAL STRESS IN PAVEMENT COMPONENT SIGMATHORIZONIAL TENSILE STRESS IN PAVEMENT COMPONENT STRESSCENVERSION FACTOR E-VALUE TO TENSILE STRESS WEST WET HASE, GCLASICNALLY PONDED MESTR SAFE MURKING TENSILE STRESS SURFACE DEFLECTION OF PAVEMENT WZERU WZ AT X = 0, Y = 0 ZCEF SURFACE CEFLECTION OF PAVEMENT MUDEL FROM GELS

G. CCST FILE
AIRE ANNUAL INTEREST RATE CF BCNC
APC ANNUAL MAINTENANCE CCST, \$/S.Y.
ARCD ANNUAL RATE CF CASH DISCOUNT
ASCCO RATE CF ANNUAL ESCALATION OF CONSTRUCTION COST
ASCLT CCST UF ASPHALT CIL, CAR LCAD PER TON

ASCHO HATE OF ANNUAL ESCALATION OF MAINTENANCE NEED CLHR RATE UF COMMEN LABOR PER HOLR CLAGI CESI EF COARSE AGENEGATE PER TON FIAGT CUST OF FINE AGGREGATE PER TON HLET COST OF HYCRATEC LINE, BULK PER TON INITIAL CLASTRUCTION COST OF TOTAL PAVEMENT, \$/S.Y. ICC INFAT LEST UP INDUSTRY WASTE FINE AGGREGATE PER TON LEEM CLST LF CONSTRUCTION LUMBER PER BLARD MEASURE MUBILIZATION AND DEMOBILIZATION COST OF MATERIAL PROCESSING FACILITIES MLL MEDINIMED FOR NORMAL SIZE OF RUNWAY AND TAXINAY CONSTRUCTION MEDISIMED FOR SMALL SIZE OF CONSTRUCTION PROGRAM MATURITY OF REVENUE BONG, NUMBER OF YEARS PCET CEST OF PURTLANC CEMENT, BULK PER TON PCV PRESENT LAST VALUE OF TOTAL PAVEMENT DURING SERVICE LIFE, \$/S.Y. PEZET LEST OF FEZZELAN CH FLYASH, BULK PER TEN REALB LEST OF REINFURCING STEEL (NIRE MESH) PER POUND SFST CLST LF SELECTED FILL SAND PER TUN SLEHK RATE OF SKILLED EGUIPMENT CPERATUR PER HOUR MAPCV MEIGHTEL AVERAGE LF PRESENT CASH VALUE

H. NOT DATA FILE AREA-EMEAN VALUE MINUS CHE STANDARD CEVIATION OF A GROUP OF E-VALUE CENTER LINE CALIB THE CALIBRATION ICENTIFICATION NUMBER DSMINIDYNAMIL STIFFNESS MCCULLS DEFINED BY WES DSM(1)F(1)/2(1) AT FIRST RESUNANCE EVAL MEDULUS OF ELASTICITY OF RESPONSE SYSTEM IN NOT PROGRAM EVALUEMEDULUS OF ELASTICITY OF RESPONSE SYSTEM IN NOT PROGRAM F(I) FUNCTION, DUUBLE AMPLITUDE IN POUNDS
HSTEP FREQUENCY SCALE OF FREQUENCY RESPONSE PLOT, 2(1)/F(I) VS H(I) HII) FREQUENCY OF FORCING FUNCTION IN HZ AT ITH TEST HILL AT FIRST RESUNANCE, FZ H(1) LEFT OF LENTER LINE NCHOESTRUCTIVE TEST NEI RIGHT OF CENTER LINE SUMZ STATIC SURFACE CEFLECTION AS COMPUTED BY NOT PROGRAM 2(1) CYNAMIC RESPONSE OF SUB OR PAY IN INCH AT ITH TEST LIND DYNAMIC RESPONSE AT CUT-CFF HIGH FREQUENCY TEST

I. FORECAST FILE AVERAGE CALLY MEVEMENT ACMAPCAVERAGE CALLY MOVEMENT PREPARED BY AIRPORT GPERATOR ACMATAAVERAGE CALLY MEVEMENT PREPARED BY ATA ACMFAAAVERAGE CAILY MOVEMENT PREPARED BY FAA ACMSUGAVERAGE CAILY MOVEMENT SUGGESTED FOR PAVEMENT DESIGN AIC. AIRPLAT TRAFFIC CISTRIBLTICA AIDAPCAIRPERT TRAFFIC DISTRIBUTION PREPARED BY AIRPERT GPERATGR ATCSUGALRPORT TRAFFIC DISTRIBUTION SUGGESTED FOR PAVEMENT DESIGN AIRCRAFT TRAFFIC MOVEMENTS AIM FCRECAST OF AIRCRAFT MUVEMENT FAMAPCFURECAST OF AIRCRAFT MOVEMENT PREPARED BY AIRPORT OPERATOR FAMATAFCRECAST OF AIRCRAFT MOVEMENT PREPARED BY AIR TRANSPORT ASSOCIATION FAMSUGFLRECAST OF AIRCRAFT MOVEMENT SUGGESTED FOR PAVEMENT DESIGN FAMIL ONE HALF VOLUME OF FAM FOR PAVEMENT DESIGN FAM\*2 DOUBLE VOLUME OF FAM FOR PAVEMENT CESIGN

J. CCMFUTER FRCGRAMS
CEC CCMFUTEC ENGINEERING DATA
CCEEN CGST BENEFIT PRCGRAM
INPUT SUMMARY OF ALL INFUT PARAMETERS
GELS GENERAL CCUILIBRIUM LAYER SYSTEM PRCGRAM
MAFPRISUMMARY OF FAM STRESSES AND CEFLECTIONS FROM GELS
MAPPRISUMMARY OF FFL STRESSES AND CEFLECTIONS FROM GELS
MAPPRISUMMARY OF FAVEMENT DESIGN THICKNESSES FROM GELS
NOT NONDESTRUCTIVE TEST PAUGRAM
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      L. PFLPAY, EXISTING PAVEMENTS
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	VEL	Rn	Th	HP				
	KEEL	145.	5C.	50.				
	SIDE	145.	5C.	50.				
	AIRCRAFT	COCE	MTGh		OEN	RANGE		* * * * * * * * * * * * * * * * * * * *
			MLG	MGT	PSI	FREC	NWHEEL	XMAX
			WHEEL	X-CCORD			2.31	
			HEEL	Y-CCGRC				
	1	8747	71000C.	564CCO.	353COC.	LONG	W. Jan	
			.2336	.6584	185.	1.2	16	478.
			.0	-44. 150.	.0 -142.	-44.	106.	150.
			106.	150.	248.	-186.	-142.	-186.
****			248.	.0	-58.	292.	.0	
			-58.	-58.		63.	121	121
			-30.	63.	121	121	121.	
	2	CC1C/30	555CGC-	63. 4C3C00.	264000-	LGNG		
		3010/30	.3172	.0943	170-	1.1	10	474.
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	**************		366.	420.	164.	202.		
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			64.	64.	2.	2.		
	3	CC10/10	430COC.	364000.	235COC.	LCNG		
			.47CO	.1175	176.	1.1	8	474.
			0.	-54.	0.	-54.	366.	420.
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	4	11011	420000	358600.	23400C.	LCNG		
			.4743	-52.	180.	1.1	8	484.
			0.	- 72.	U.	-52.	380.	432.
			390.	432.	70	70.	0.	0.
			7C.	3.0		10.	••	•
	5	008(8707)	355000-	258COC.	159COC-	LCNG		
			.4808	.12C2	185.		8	282.
			0.	-32.			218.	250.
		4	218.	250.			. 57-7-2-4	
			0.	C.	55.	55.	0.	0.
			55.	55.				
	6	872C	210000.	168000.		MEDIUM	TAMBES OF R	
			.4800	-12CU	145.	1.4		295.
			0.	-32.	0.	-32.	231.	263.
			231.	764-		TO A LA		
			0.	C.	49.	49.	0.	0.
	12.05.51		49.	45-				
	7	8721-20C	172000.	150000.	57CCO.	WED ION		350
			.4618	.2369	176.			
		* 117	0.		191.	225.		
	8	e727-10C	150000	132000.	0. 95000.	O. MEDIUM		
	•	2121-100	.4618	.2369	170.	1.6	4	259.
			0.	-34.	191.	225.		
			0.	0.	0.	0.		
	9	DC9(8737)		860CC.	65CCO.	SHORT		
			.44CO	.2200	150.	1.4	4	223.
			0.	-26.	171.	197.		
			0.	C.	0.	0.		
	10	F27	40000.	360CO.	29000.	SHORT		
			.4200	.2100	110.	1.5	4	300.5
			0	-17.5	265.5	283.	-	
			0.	C.	0.	0.		

```
LCNG
11
          CLX-200
                   382000. 310000.
                                         2CUCOC.
                    .4700
                                         170.
                                                                       474.
                              .1175
                                                   1.1
                    0.
                              -54.
                                         0.
                                                   -54.
                                                             366 .
                                                                       420.
                    366.
                               420.
                    0.
                              0.
                                         64.
                                                   64.
                    64.
                              £4.
                                                   MEDIUM
12
          2757
                    22000C.
                              193000.
                                         145COC.
                                                                       319.
                    .4700
                              -1175
                                         158.
                                                   1.5
                                                             8
                    0.
                               -34.
                                         0.
                                                   -34.
                                                             251.
                                                                       265.
                    251.
                               285.
                              C. . . . . . .
                                         45. 45.
                                                             0.___
                    0.......
                    45.
                               45.
                    280000.
                               255000.
                                                   MED IUN
13
          8767-20C
                                         173COC.
                    .48CO
                               .1200
                                         185.
                                                   1.2
                                                             8
                                                                       388.
                    0.
                               -48.
                                         0.
                                                             292.
                                                                       340.
                                                   -48.
                               340 .
                    252.
                    0....
                               C. .
                                         56.
                                                             0. _
                                                   56.
                                                                       0.
                    56.
                    34700C.
          A3UCB4
                              295CGO.
                                         199000.
                                                   MECIUM
                              .1155
                                         171.
                                                                       416.
                    .4680
                                                   1.1
                    0.
                                                             340.
                                         0.
                                                                       378.
                    340.
                              378.
                    0.
                              0.
                                         60.
                                                   60.
                    6C.
                               60.
                    37600C.
15
          CCNCCRUE
                               240000.
                                         166COC.
                                                   XLONG
                                         184.
                                                             8
                                                                       330.25
                     .4760
                               .1150
                                                   1.2
                                         0.
                    0.
                               -26.25
                                                   -26.25
                                                             277.75
                                                                      304.
                    217.15
                              304.
                    0.
                    65.5
                              C.
                                         65.5
                                                  65.5
                                                             0.
..
          AIRCRAFT TAKE-CFF WEIGHTS
ICA
          AIRCHAFT LGAD FACTOR
h IGH
          RANGE OF AIRCRAFT
AIRCRAFT ALENG
                                         SHORT
                              PEDIUM
                   LCNG
                    615JOC.
          713303.
                                         >3000G.
                              530CCO.
                    5150CC.
          5550CC.
                               420000.
                                         42000C.
          43J00C.
                   3500UC.
                              3600000.
                                         360COC.
                    35000C.
          4260000
                                         34000C.
                               340C00.
          355CCC.
                    325JOC.
                               280CCJ.
                                         283000.
          2200000
                    22000C.
                               2200000.
                                         200000.
          173000.
                    LICCOC.
                               Liucco.
                                         157COC.
          150000.
                   150000.
                              150000.
                                         13500C.
8
          ICJCJC.
                   LCOCOC.
                                         ICCCOC.
                              100000.
G
10
          5000C.
                    50000.
                               500CC.
                                         50000.
11
          35CCCC.
                   3500UC.
                               3CCCCO.
                                         3 CO OOC .
          213000.
                    216000.
                              218000.
                                         19800C.
12
          270000.
13
                   213300.
                              210000.
                                         24800C.
          333000.
                    3330C.
                              333CJO.
                                         3 G3 GOC .
14
15
          355COC.
                    35500C.
                              313C00.
                                         313COC.
..
16.
          AIRCRAFT TAKE-CFF WEIGHTS
MEDIUM
          ALKCRAFT LCAD FACTOR
          RANGE OF AIRCRAFT
AIRCRAFT
                              MULDEN
                                         SHORT
          XLLAG
                    LCNG
                    53COCC.
          615030.
                               530C00.
                                         >30COC.
          5150CO.
                    4200CG.
                               420C00.
                                         420000.
          390600.
                    3600000.
                              360CCJ.
                                         30000C.
          390006.
                    3400JC.
                               340C00.
                                         340COC.
          325000.
                    283300.
                               2800000.
                                         28JCJC.
          220000.
                    2200000.
                               2000000.
                                         20000C.
          17GGGC.
                    170000.
                               157CCC.
                                         1570UC.
          15000C.
                    150000.
                              135000.
                                         135COC.
          100000.
                    LCUUOC.
5
                               100cos.
                                         450CO.
10
          50000.
                    500UC.
                               500CU.
                                         40JCO.
                                         3C030C.
11
          350CCC.
                    JC000C.
                               3C0C00.
          213000.
12
                    21800C.
                               198000.
                                         158COC.
          270CCC.
                    210000.
                               248C00.
                                         24800C.
14
          333000.
                    333000.
                              3C3CCO.
                                         30300C.
15
          JI3GCC.
                    31300C.
                              313C00.
                                         31300C-
```

The state of the s

FINANCE	AIRE	ARCD .10	ASCCC	ASCMC	NBL 30.	NSLP 20.		
	•••	• • • •	.07	.02	30.	20.		
FCRECAST	ADM	AID						
FAMSUG	AEMSUG	ATDSUG						
FAMAPC	ACHAPU	ATCAPC						
FAMATA	ACMATA	ATCATA	* *				*	
**	4011414	~						
PFLCI								
.12	SMILTH DA	VEMENT SU	DEACE					
.16		AL SURFAC						
.25			GHNESS TOL	ELANCE				
 .30			CN REGUIRE					
**	MAJOR KER	MULLIAIL	CH ME SOINE	•				
	AIRCRAFI	WEIGHT						
CESIGN		17000C.						
	7	110000.						
CLASS	CODE	OVSFKL	OVSFSO	******		66440		
 _CLA33			CI	STRESS	FATIST	CCVAR	Al	
1	LCF	1.0	1.3333	.30	-092	.15	2.80	
•	LCF	.C125	.54	2.00		.15	2.00	
2 .	AC	0.9	1.2		.90	.12	2.30	
4	AC	.0170	.46	2.60	.086 1.00	•12	2.30	
3	cc	1.0	1.3333	.46		.10	2.95	
 					.082	.10	2.95	
4		.C104	.61	2.00	.62		2 00	
•	LC/PAV	1.0	1.3333	.38	.092	. 15	2.80	
		.0125	.54	2.00	•90			
5	AC/PAV	C.9	1.2	.65	.086	-12	2.30	
		.6170	.46	2.00	.90			
6	CC/PAV	1.0	1.3333	.40	.082	.10	2.95	
		.C104	.61	2.00	-62			
7	CCL	1.0	1.3333	.46	.084	-12	2.80	
		.C125	.58	2.00	.90			
8	AC/AC	0.5	1.2	.65	.086	.12	2.30	
		.C170	.46	2.00	1.00			
9	ACICC	1.0	1.3333	.40	.082	-10	2.65	
		.0130	.58	2.00	.90			
10	CC/AC	1.0	1.3333	-4C	-082	.10	2.95	
		.0104	.61	2.00	.62			
11	CC/CC	1.0	1.3333	.4C	.C82	-10	2.95	
		.0104	-61	2.00	.62			
**								

LAVER	CCOE	EVALUE	PCISSON	MCDISI	MLD(N)		
1	ASTLP	2C00CC.		.3029	.0016		
2	LCFA	1100000.		.0064	.0019		
3	LCFU	ecoouc.		.0051	.0015		
					.0015		
4	LCFL	40000C.		.3051			
5	SUB	8000.		.0009	.0005		
6	PAV	00000.		.0009	.0005		
1	PCCR	SCUOOCC.		.0065	.0032		
8	PCC	4CCOJCO.		.0054	.0027		
9				.0043	.0022		
	KLL	15C00C0.					
10	CTB	2COCOC.		.0038	.0019		
11	ASUS	15000C.		.0026	.0014		
12	ASTH	GCOCO.		.0020	.0011		
13	AGBS	40000.		.0017	.CO10		
14	SSUS	20000.		.0015	.0008		
				.0028	.0015		
15	LTSLB	15000.					
16	EXPCEV	45000CG.		.0	.0		
1.7	FXACCA	180000.		.0	.0		
16	EXPC	3CCOOCO.		.0	.0		
15	EXAC	1400JC.		.0	.0		
26	EXBSC	30000.		.0	.0		
ž l	EXOSA	50000.		.0	.0		
42	PFLPAV	60000.		.0009	.00C5		
**							
LAYER	PCBT	FIAGT	CCAGT	ASLLT	HLBT	PCZBT	SFST
	INFAI	RSWLB	LBBM	CLHR	SLEFR		
			.05C0	.0351	.0	•	•
1	• C	.0235				.0	.C
	.0	• C	.0	.0112	.0217		
2	.0007	. C	.02CO	•0	.0020	. CC67	.0374
	.0	C	.0	.0027	-0102		
	.0006	. C	-0064	.0	.0016	. CC74	.0460
	.0	. c	.0	.0027	.OC88	•••••	
						0077	0614
4	.0005	. C	.c	.0	.0013	.0073	.0516
	.0	. C	.0	.0027	.0068		
5	.0	. C	.0	.0	.0	.0	.0
	.0	. C	.0	.0048	.0222		
6	.0	.c		•0	.0	. C	.0
•				.0024	G. Flances		•••
	•0	• C	.0		.0111		
7	.0102	.CIBL	.0433	.0	.0	.0	. c
	.0	· E440	.1430	.C321	.0127		
8.	.0102	.C181	.0433	. C	.0.	. C	.0
	.0	• C	.1430	.C321	.0127		
9	.0051	.0161	.C433	• C	•0	.C	.0
,						••	••
	.c	.c	.C	.0139	.0171		
10	.0051	. C	.0	.0	.0	. C	-0596
	•C	. C	. C	.0036	.0110		
11	.C	.C235	.CSCO	.0037	.0	-0	.0
	.0	. C	. C	.3112	.0217		
12	.0	.c	.0	.0025	.0	.0	.0593
12							.0373
	.0	. C	.C	.0042	.0110		
13	.0	.0	.0764	.0	.0	.0	.0
	.0	• C	.0	.0016	.0074		
14	.0	• C	.0	0	.0	.0	.0651
	.0	. C	.c	.0016	.0074		
15	.0		.c		-0024	.0	.0
15		• •	••	•0		• 0	• •
	• C	. C	.C	.3036	.0095		
16	.0	• C	.6	.0	.0	.0	.0
	.0	. C	.C .	.0032	.C127		
17	.0	• C	. C	• C	.0	.0	.C
	.0	c	.0	.0032	.0100		
16			.0			•	.c
16	.6	.c	• C	•0	.0	.0	••
	.0	. 0	.0	-0032	.0127		
15	•C	• C	. C	.0	•0	• C	• C
		• C	. C	.0032	.01CO		
26	.0	.0		.0	•0	.0	.C
	.0		.0	.0016	.0074		
	.0	. C	•0			•	
21	.c	• 6	•¢	•0	•0/	. C	.0
	• G	• C	.0	-0016	.0074		
22	.0	. C	.0	.0	.0	.0	. C
	.0	. c	.c	.0024	.0111		20.15

```
PAVEMENT
          CCDE
                     LAYER
                                THICKNESS EVALUE
                                                      PCISSUN
                     ASTLP
           LLF
                                3.
                                6.
                     LCFB
                                é.
                     LCFC
                     SUB
                     ASTEP
                                2.
2
           AL
                     ASBS
                                16.
                     AGUS
                                6.
                     SUB
3
           CC
                      PCL
                                12.
                     CIB
                      SSBS
                     SLB
           LC/PAV
                     ASTCP
                     LLFA
                                 12.
                     PAV
           AC/PAV
                     ASTCP
                     ASBS
                                8.
                     PAV
           CC/FAV
                     PCCR
                     ASTCP
                     PAY
           CCL
                     PCC
                                .3
                     RLC
                                6.
                     SSBS
                                6.
                      SLB
                     ASTCP
                     ASBS
                                8.
                     PFLFAV
LIERATE
           PAVEMENT
                     LAYER
                                HMIN
                                           HMAX
                                                     HSTEP
                     LCFC .
                                1.
                                           25.
                                                     2.5
                     ASBS
                                           31.
                     PCC
                                           18.
                     LCFA
                                           19.
                                                      1.5
                     ASAS
                                           29.
                                                      2.
                      PCCR
                                           18.
                                                      1.
                                4.
                     RLC
                                           12.
                                           29.
                     ASBS
                                                      2.
NEW PAVEMENT ESUB GRID EVALUES
          1506.
                  2000.
                                                                sccc.
1000.
                                3000.
                                           400C.
                                                      6000.
                                                                           12000.
                                                      100C00.
IECCO.
           25000.
                     35000.
                                500CO.
                                           70000.
..
GVERLAY PAVEMENT EPAV GRIC EVALUES
          15000.
                     20000.
ICCOU.
                                300CO.
                                           400CO.
                                                      600CO.
                                                                           120000.
16CCOC.
                     35000C.
                                500CCO.
                                           7000UC.
                                                      100C000.
PAVEMENT NUMBER
                                SIDE
                     KEEL
                                8
```

	PFLPAV	LODE	LAYER	THICKNE	SS EVAL	UE					
	1	ACI	EXAC	3.							
	2	AC2	SUB								
	•	AC2	EXBSA	6.							
	3	AC3	EXAC	9.							***
		~~,	EXUSA	6.		3213					
	4	AC4	EXAC	12.							
	· · · · · · · · · · · · · · · · · · ·		EXBSA	6							
	5	AC5	EXAC	16.							-
			EXBSA	6.							
	6	AC6	EXAC	20.			*-				
			EXISA	6.		30.89					
	7	CCI	EXPC	8.							
			EXBSC .	8.							
	8	CC2	EXPC	1C.							
			EXASC	8.							
	9	CC3	SUB EXPC	12.							
			EXBSC	8.							
	10	CC4	EXPC	14.							
			EXBSC SLB	8.	323 V						
	11	CC5	EXPC	15.							
			EXBSC.	8.							
	12	LLG	EXPC	16.							
			SUB	8.							
	13	CC7	EXPC	17.							
			EXBSC .	8.							
	14	CCI	EXACCV	4.							
***			EXPC	8.							
	15	CC2	SUB EXACCY	3 10		•					
	15	2	EXPC	10.				• • • •			
			EX8SC SLB	8.							
	16	CC3	EXACGV	4.			•		× + -		
			EXPC	12.							
			SLB								
	17	564	EXACOL	10.							
			EXBSC	A.	*						
	18	GC5	SUB EXACG!	6.							
			EXPC	12.							
			EXBSC SUB	••							
	15	666	EXPCCV	0.							
			EXPC	ic.				•			
			EXBSL SUB	8.							
	20	GC7	EXPCCV	6.							
			EXACGV EXPC								
			EXBSC								
	••		SUB								
										-	

```
PFLPAV ESLB GRIC EVALUES
zccc.
          3000.
                              600C.
                    4000.
                                      8000.
                                                12000.
                                                          16000.
                                                                      25000.
          45CCC.
JSCCC.
                              ICCCCO.
                    70000.
..
PFLPAV
          CLASS
                    LAYER FLR STR/MT
          AC
                    EXHSA
          AC
                    EXAC
2
3
          AC
                    EXAC
          AC
                    EXAC
5
          AC
                    EXAC
          AC
                    EXAC
0
          CC
                   EXPC
          CC.....
                    EXPC
          CC
CC
CC
                    EXPC
10
                    EXPC
11
                    EXPC
12
                    EXPC
13
                    EXPC
          AC/CC
                    EXPC
15
          AC/CC
                    EXPC
          AC/CC
16
                    EXPC
17
          AL/LL
                    EXPC
18
          AC/CC
                    EXPC
          CC/CL
15
                    EXPC
          CC/CC
                    EXPC
20
..
CLASS
          PFLPAV FCR AND/ANS
. 2
3
9
          10
11 _
          19
          PAVEMENT PFLFAV FOR ANCIANS
CLASS
                    0
                    0
                    0
                    0
5
          6
6
                    0
                    0
          8
          8
PAVEMENT PFLPAV
                    CLASS LAYER FOR STR/MT
                             LCFC
                    LCF
AC
CC
          0
          G ..
                              ASBS
                              PCC
                    LC/PAV
          C
                              LCFA
                    AC/PAV ASBS
CC/PAV PCCR
5 ...
          0 ... ...
                    CC/PAV
                              FCCR
                    CCL
AC/AC
                              RLC
                              EXAC
8
                    AC/AC
                              EXAC
          12
                    AC/CC
                              EXPC
          14
                    AC/CC
                              EXPC
8
          9
                              EXPC
                    AC/LC
          11
8
                    AL/LC
                              EXPC
8
          13
                    AL/CC
                              EXPC
          17
                    AC/LC
                              EXPC
          3
                              EXAL
                    AC/AC
          4
9
                    AC/AC
                              EXAC
8
                    AC/AC
                              EXAC
          10
8
                    AC/CC
                              EXPC
          6
8
                    AC/AC
                              EXAC
                    AC/CC
                              EXPC
8
                    AL/LL
                              EXPC
8
          15
                    AC/CC
                              EXPC
8
          16
                    AC/CC
                              EXPC
8
          18
                    AC/CC
                              EXPC
          19
                    AC/CC
                              EXPC
                    AC/CC
                              EXPC
```

# COMPUTED DATA INPUTS

GELS/NDT3 for each PFLPAV in design charts control group data.

#### FIELD DESCRIPTION

- 1 number of thickness
- 2 number of PFLPAV E-values

# Continuation card or cards

1 to 8 surface deflection of PFLPAV under a single wheel having tire pressure = 200 psi and radius 9 inches number of cards = the integer of (number of E-values -1)/8 plus 1.

# Continuation card or cards

1 to 8 tensile stress in the governing layer under the same single wheel for deflection. number of cards = the integer of (number of E-values -1)/8 plus 1.

GELS/PFLN for each PFLPAV in design charts control group data.

# FIELD DESCRIPTION

- 1 number of layer thickness
- 2 number of PFLPAV E-values

#### Continuation card or cards

1 to 8 surface deflection of PFLPAV under all wheels of design aircraft.
number of cards = the integer of (number of E-values -1)/8 plus 1.

# Continuation card or cards

1 to 8 tensile stress in governing layer under all wheels of design aircraft. number of cards = the integer of (number of E-values -1)/8 plus 1.

GELS/PFLD for each CLASS under Design Aircraft.

# FIELD DESCRIPTION

- 1 surface deflection of PFLPAV under all wheels of design aircraft
- 2 tensile stress in governing layer of PFLPAV under all wheels of design aircraft.

### Continuation Card

- surface deflection of PFLPAV under one wheel of design aircraft
- 2 tensile stress in governing layer of PFLPAV under one wheel of design aircraft.

Continuation of 2-card sets for classes defined in the default file.

GELS/PFL for each PFLPAV under operational aircraft.

FIELD DESCRIPTION

1 number of AIRCRAFT

for each AIRCRAFT, RANGE, and LOAD FACTOR

- 1 surface deflection of PFLPAV under all wheels of TOW
- 2 surface deflection of PFLPAV under all wheels of LRW
- 3 surface deflection of PFLPAV under all wheels of TDW
- layer stress of PFLPAV under all wheels of TOW
- 5 layer stress of PFLPAV under all wheels of LRW
- 6 layer stress of PFLPAV under all wheels of TDW

Continuation card in same format shows surface deflection and stress under one wheel of AIRCRAFT.

The data set for each aircraft consists of eight subsets of data for four ranges of operation and two classifications of load factor, in the

following orders:

RANGE	LOAD FA
XLONG	HIGH
LONG	HIGH
MEDIUM	HIGH
SHORT	HIGH
XLONG	MEDIUM
LONG	MEDIUM
MEDIUM	MEDIUM
SHORT	MEDIUM

For each PFLPAV, the total number of data sets is equal to the number of aircraft defined.

GELS/FAMD for each PAVEMENT under design aircraft.

# FIELD DESCRIPTION

- surface deflection of PAVEMENT under all wheels of design aircraft weight.
- 2 layer stress of PAVEMENT or PFLPAV under all wheels of design aircraft.

Continuation card, same as above, except surface deflection or layer stress under one wheel of design aircraft.

GELS/FAM for each PAVEMENT under operational aircraft.

FIELD DESCRIPTION

1 number of AIRCRAFT

for each AIRCRAFT, RANGE, and LOAD FACTOR

- surface deflection under wheel (0,0) due to all wheels of TOW surface deflection under wheel (0,0) due to all wheels of LRW
- 3 surface deflection under wheel (0,0) due to all wheels of TDW
- 4 layer stress under wheel (0,0) due to all wheels of TDW
- 5 layer stress under wheel (0,0) due to all wheels of LRW
- 6 layer stress under wheel (0,0) due to all wheels of TDW

Continuation card is exactly the same except surface deflection or layer stress under one wheel of operational aircraft. There are sets of data for each class of pavements. Subset data for each aircraft are similar to GELS/PFL.

GELS/HDES for each PAVEMENT/PFLPAV in design charts

FIELD DESCRIPTION

- 1 number of layer thicknesses to be iterated
- 2 number of E-values

for each thickness

1 to 8 surface deflection under wheel (0,0) due to all wheels of design aircraft

number of cards = the integer of (number of E-values -1)/8 plus 1. Number of sets = number of layer thickness to be iterated.

for each thickness

1 to 8 tensile stress in governing layer under wheel (0,0) due to all wheels of design aircraft.

number of cards = the integer of (number of E-values -1)/8 plus 1. There are sets of data for each PAVEMENT/PFLPAV combination defined in the default input file for design charts.

GELS	NCT3							
1	12							
0 404300		c 201277	c 520022	C 103150	0 143053		0 007003	
0.484288	3.367159	C.301377	C.228033	C.187158	0.142052	C. 117210	0.087903	
C.C71678	0.062120	0. (45477	0.042216					
329.508	279.014	243.886	154.054	159.736	113.800	83.746	42.653	
16.847	0.648	-21.661	-34.545					
	12							
 C.36E822	C.2818E7	C.2328CE	0.177917	0.141254	0.113310	C. C94562	0.072338	-
				0.141234	0.113310	6.694302	0.012330	
C.055939	0.052633	C.C42873	0.037216					
170.014	153.589	141.874	125.489	114.138	98.910	88.925	75.287	
66.781	61.563	54.405	50.456					
1	12							
		0 100/21		0 1	0 001201	0.076303	0.011113	
	. 0.227017	C.188631	C. 145447	0.121211	0.094291	0.079383	0.001003	
C.051741	0.045852	C. C37553	C.C3343E					
175.601	159.770	148.417	132.552	121.569	106.780	56.992	83.4CO	
74.764	69.171	61.453	56.954					
1	12				441 144			
-								
C.245421	C. 1900 E3	0.158862	0.123725	0.103913	0.C81717	0.665420	0.054751	
C.C46514	0.641569	C. C350C6	0.C31248					
149.226	130.047	127.380	114.182	104.935	92.381	84.006	72.243	
64.600	59.070	52.666	48.483					
		22.000	40.403					
1	12							-
C.203225	C.15727C	C.131935	0.103767	C.C87956	C. C70267	0.C6C381	0.048526	:
C.C41556	C.C37966	C.C326C8	0.029364					
112.770	104.081	97.498	87.832	80.759	71.076	64.475	55.082	
		**	35.439				33.002	
48.884	44.835	38.996	33.439					
1	12							
C.177095	C.136452	C.114454	C. C90450	0.077176	0.062432	0.654264	0.044221	
C.038612	0.035162	C.C3C736	C. C28C93					
85.163	78.919	74.216	67.173	61.952	54.500	49.322	41.803	
				01.932	34.900	47.322	41.003	
36.762	23.427	28.587	25.594					
1	12							
C.155651	C.119252	C. CS 7571	C. C74122	0.061255	0.047058	G.C39176	0.029737	
C.024414	0.021240	C.C16582	0.014456					
				310 /5/				
674.386	831.555	800.047	753.566	719.454	671.199	638.018	590.419	
558.837	538.014	507.315	487.760					
1	12							
0.136819	0.130917	0. (81700	0.061259	0.050279	0.038428	C. C31955	C.024257	
				0.0702.7	0.030120	0.032.33	0.051231	
C.C15912	3.017368	C.C13750	C. C11718					
625.499	595.435	574.988	546.057	525.038	454.565	472.812	440.188	
417.550	462.360	379.236	364.249					
1	12							
C.120844	J. C889 82	C.071668	0.053136	0.043252	0.032720	C. C27073	C. C20476	
				0.043232	0.032120	0.027013	0.020410	
C.C16751	3.014590	C.C116C6	C.CC9845					
473.064	447.821	431.885	41C.922	396.456	315.952	361.334	338.753	
. 322.584	311.267	253.715	261.942					
1	12							
		C C44434	C C47414	0.026500	0 020040	0 022720	0.017900	
C.107669	C. C79978	C.064484	C. C47614	0.038529	0.028869	0.023730	0.017809	
C.C14553	C.C12627	0.010033	0.608507					
373.200	351.047	337.079	319.658	308.421	293.267	282.735	266.622	
254.862	246.459	233.136	223.902					
1	12							
C.101460	C.C76C13	C.C61462	0. 645468	0 13//61		0.022444	0.016766	
C.101460				0.036691	0.027390	0.C22446	A.OTELEE	
C.013665		C.CU\$358	0.007964					
336.721	314.966	301.564	285.208	274.852	261.307	252.105	238.198	
228.C72	220.840	209.173	201.007					
1	12							
		0 000115	0 04 1				0 015044	
C.095c35	0.672248	C. C58649	0.043424	0.035077	0.026117	0.C21344	0.015866	
C.012853	C. C11157	C. CC8838	0.007482					
305.510	284.661	271.793	256.205	246.516	234.143	225.932	213.737	
264.527	158.630	188.414	161.194					
1	12							
C.085527	C. C68652	C.055559	0.641619	0.033637	0.025006	C. C2 C3 88	0.015052	
C.012226	C.C1C>58	C.CUE345	C.CC7056					
278.824	258.937	240.613	231.648	222.451	210.939	203.470	152.557	
184.839	179.313	170.327	163.932					
1	12		200,752					
C.155010	0.115945	C. C951C8	0.072723	0.060522	0.047142	0.035747	0.030909	
C.C263C4	U. C22947	G.G1ES50	C.Cloole					
746.555	709.339	682.465	643.016	613.578	572.531	543.713	501.941	
473.581	455.476	428.103	410.637					
413.701	1,,,,,,,,	420.103	410.037					

•	GELS	PFLN 12							
	C.555589		0.347836	0.253454	6.202959	0.149268	0.120586	0.687811	
	C.C7CC51	C.C59786	C.C46422	C. C38879					
	232.138	239.531	206.531	162.243	132.6CO	53.809	68.754	34.874	
	13.668	C.4CC	-17.907	-28.456					
	1	12							
	0.458424	0.364550	C.2918C4	C.213447	0.171356	0.126506	0.102631	0.075324	
	C.C6C584	0.052053	C.C4C917	0.034616			22 050	41 750	
	150.673	133.067	121.115	105.222	54.743	81.307	72.858	61.758	
	55.106	51.164	45.537	43.264				4	
	0.426572	C.3140C5	C.252549	C.1859G2	C-145853	0.111211	C. 090568	0.066875	
	0.054111	0.046734	C.C31C60	0.031547	C. 143633	0.111211	C. 070300	0.000013	
	163.882	145.270	132.485	115.398	104.112	89.614	80.454	68.254	
	00.860	50.281	50.128	46.711		.,			
	1	12	30.120	100111					
	0.374568	0.276627	C.223386	C. 165583	0.134180	C.100251	0. 082066	0.061095	
	C.C49722		C.C34450	C. C29595					
	145.454	129.577	118.421	103.203	92.985	19.766	71.233	59.867	
	52.827	48.438	42.438	39.017					
	1	12							
	0.327133	0.241420	C.195402	0.145826	0.118964	C. C89959	0.C74326	0.056144	
	C.046221	C.C40445	C.C32851	C.C28535					
	110.147	104.070	55.472	£3.455	75.167	64.127	56.936	47.120	
	40.934	37.027	31.600	28.440					
	1	12							
	C.294868	C.216854	C. 175411	0.131163	0.107392	0.081815	0.067881	0.051820	
	C.043017	0.037865	C.C31C83	67.064	60.456	51.552	45.591	37.279	
	92.591 31.936	83.1C4 28.519	76.433 23.766	20.859	CU.450	51.952	43.371	31.219	
	1	12	23.160	20.033					
	C.281023	C. 203125	C.161897	C. 118136	C. C94735	0.069662	0.056175	C.040528	
	6.331969	0.026976	C.C2C4C5	C. C16653					
	550.548	884.534	834.833	766.353	718.849	654.539	611.755	551.937	
	513.231	468.143	451.762	429.071					
	1	12							
	C.250859	C.180265	C.142850	C.1C3473	0.082034	0.060557	C.C48795	0.035215	
	C.C27787	0.023435	C.C17681	C.C14373					
	717.437	662.281	026.239	578.037	545.166	500.604	470.336	426.877	
	397.684	378.278	345.440	331.076					
	1	12					0 0/ 2/ 20	0.021202	
	C.22E151 C.C24656		C.125834	0.012710	0.014328	0.054138	0.043418	0.031595	
•	564.803	518.405	C.C1566C 46d.954	451.167	426.335	353.154	370.978	338.700	
	316.529	301.513	278.687	263.650	420.333	313.1.14	310.710	3300100	
	1	12	2100001	203.070	7				
	C.20E782	C. 151230	C.115843	0.086214	0.06 6336	0.049505	G. C39554	0.028326	1
	C.C.2253	0.018727	C.C14CE1	C.C11412					
	461.006	421.064	355.503	363.411	342.975	316.445	299.050	274.043	T
	256.903	245.0EC	226.545	214.784					
	1	12							
	C.155813	0.145414	C.115480	0.083161	0.065887	0-647640	0.038033	0.027123	
	C.021266	0.017865	C.C13416	C.C10859	210 422	264 410	170 //0	240 124	
	421.844	383.659	359.710	155.678	310.627	286.410	210.649	248.176	
	232.483	12	206.112	193.070					
	C.151427		0-111388	C. C80376	0-063685	0-045954	0-036663	J.026071	
	C.02C396		C.C12818	C.C10360	0.003003	00013771	0.050005	0.000011	
	387.610	352.004	329.264	3CC-978	283.134	260.564	246.168	225.769	
	211.893	202.466	187.813	177.876					
	1	12							
	0.182990		C. 1075C8	0.077787	0.001681	0.044520	C. C35447	0.025145	
	C. C15629		C.012282	C. CC9909					
	357.944	324.673	303.164	276.3CO	259.494	238.263	224.903	206.248	
	193.636	185.049	171.721	162.743					
	0.274037	0.198258	C.158297	0.115984	0-003435	0.069371	C- C54444	0.041550	
	C.C33382	C. C286C1	C.022264	C.C18668	0.073435	0.009371	0.030400	0.041339	
	835.510	170.432	726.433	666.231	624.513	567.858	529.959	476.646	
	441.751	419.021	385.985	365.344					

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GELS
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 0.145853
                                    104.112
 C.C94815
                                     58.798
 0.074328
                                    426.335
                                    310.996
 C.C33669
 C.C/5619
                                    362.234
 0.035608
                                    271.648
 C.CoCse7
                                    267.528
 C.026211
                                    161.862
..
GELS
           PFL
                      DEFAULT
15
 C.2174C
            C.22291
                                     94.4
                       0.32762
                                                85.2
                                                          101.0
                                                          114.903 ]
                                                54.392
 C.100558
            C. CE2477
                       C.116538
                                    106.005
            C.201646
                       C.2965C2
                                                80.556
                                     88.730
 C.242127
                       C.1C6807
                                                          109.579
 C.CEE991
            0.075189
                                     58.738
                                                89.178
                                                           53.100
 C.21C056
            C. 18263C
                       C. 268666
                                     £2.693
                                                16.674
                                                          104.292
 C. C76034
            0.068679
                       0.091742
                                     $1.293
                                                84.072
 C.21CC56
            C. 182630
                       C. 26 E660
                                     82.693
                                                16.674
                                                          97.120
 C. C7 E C84
            C. Cod6 19
                       C. C5 1742
                                     51.293
                                                64.072
            0.231646
                                                80.556
                       C. 296502
 C.242127
                                     88. 730
                                                          105.5197
                       C.1C6807
 C.088951
            0.075189
                                     58.738
                                                89.178
                                                           $3.1CO-
 C.210056
            C. 18203C
                       C.268666
                                     82.693
                                                76.674
                                                          104.2927
 C. CTECH4
            U. Co8675
                      C. C57142
                                     51.293
                                                84.072
                                     £2.693
                                                           53.1CC
            C.182630
                       C.208666
                                                76.674
 (.21C056
                                                          104.2527
 C.072084
            0.668679
                       C. 697742
                                     51.293
                                                84.C72
 C.21CC50
            C. 18263C
                       C.268666
                                     82.693
                                                16.674
                                                          104.252
 C. C7 & C & 4
            0. 068679
                       C. CS 1742
                                     $1.293
                                                84.072
            0.18417
                       C.26695
                                    161.8
                                                89.8
                                                          104.3
 6.24836
                       C.13C971
                                                57.288
                                    112.196
                                                          116.140
 C.1217C2
            0.092233
                       C.257C61
 C.2315C5
            C. 170113
                                     55.054
                                                £7.867
                                                          103.133
 C.113986
            0. 688535
                       C.125635
                                    108.724
                                                55.026
                                                          113.901
                                                           98.573
 C.191372
            C.156671
                       C.228438
                                     51.317
                                                088.55
                       0.112570
 C.095551
            0.679451
                                                89.191
                                                          108.066
                                     55.215
 C.191372
            C. 156671
                       C.228438
                                     51.377
                                                62.8E6
                                                           98.573
                                                          108.366
 C.C95551
            C. C75451
                       C.112570
                                     59.215
                                                89.191
                      C.257C61
 0.231505
            C. 170113
                                     59.094
                                                87.867
                                                          103.133
                                                          113.901
 C.113986
            0.000035
                       C.125635
                                    108.724
                                                50.026
 C. 191372
            C. 150071
                      C.228438
                                     51.377
                                                22.886
                                                           93.573
 C.055551
                                                89.191
                                                          108.066
                                     59.215
            0.079451
                       C.112570
 C.191372
            C. 150071
                       C.228438
                                     51.377
                                                633.53
                                                           58.573
                       C.112570
 C.C95551
            0.019451
                                     59.215
                                                89.191
                                                          108.066
 0.191372
            3.150071
                       C. 228438
                                     91.377
                                                82.886
                                                           98.573
                      C.112570
                                                89.191
                                                          108.066
 C.C55551
            0.079451
                                     59.215
                                                          110.1
 C.22164
            C. 18915
                       C.27570
                                    101.6
                                                55.2
 C.118031
            C. 102021
                       C.144827
                                    110.563
                                               102.802
                                                          121.544
 C.201736
            3.170453
                       0.257164
                                     $7.855
                                                92.221
                                                          167.498
                       C.135825
                                   166.020
                                                59.280
                                                          118.100
 C-10:324
            J. C55665
 C.187263
                                                          105.341
            0.106922
                       C.243185
                                     54.755
                                                89.812
 C-101054
            G. C5C853
                       C.128558
                                    102.287
                                                90.454
                                                          115.316
 C.187263
                       C.243185
                                     54.755
                                                89.812
                                                          105.341
            C. 166922
 C.101054
            0.090853
                       C.128598
                                    102.287
                                                96.454
                                                          115.316
 C.201136
            C. 110453
                       C.257164
                                     $7.855
                                                52.221
                                                          167.458
                                                99.280
                                                          118.100
 C.1CH324
            J. C55665
                       C.135825
                                    106.020
                                                          105-341
 C.187268
            C. 166922
                       C.243185
                                     54.755
                                                89.812
 C.101054
            C. 050853
                       C.126998
                                    162.287
                                                56.454
                                                          115.316
 C.181263
                                                89.812
                                                          105.341
            C. 100922
                       C.2+3185
                                     54.755
 C.1J1054
            C. CSC853
                       0.128998
                                    102.287
                                                56.454
                                                          115.316
 C.167268
            0.166922
                       C.243185
                                                89.812
                                                          105.341
                                     54. 755
 C.101054
            C. CSU853
                       C.128598
                                                          115.316
                                    102.281
                                                50.454
 C.21898
            6.13034
                       C.2/145
                                    107.C
                                                99.6
                                                          116.4
 C.11E834
            G.102203
                       C.145152
                                    114.252
                                               105.664
                                                          125.581
 C.2C1687
            C.175229
                       0.255163
                                    103.268
                                                96.661
                                                          113.752
 C.11CC19
            0.656569
                       C.137080
                                    105.895
                                               102.348
                                                          122.317
 C.117734
                       C.23227C
                                     57.340
                                                52.220
                                                          109.635
            0.159021
 6.657838
            C. C8856C
                       C.125600
                                                57.353
                                                          117.350
                                    103.117
 C.177734
            0.159621
                       C.232270
                                     57.340
                                                52.220
                                                          109.635
 C.C97838
            0.088560
                       C.125600
                                    163.117
                                                47.353
                                                          117.350
 C.201687
            C.175229
                      C.255163
                                   103.268.
                                                96.661
                                                          113.752
 L. 11 CC19
            U. C$6565
                      C-137C80
                                   109.895
                                               162.348
                                                          122.317
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and the same of the same of the

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FAMD
GELS
 C.075922
                                   57.048
 6.036138
                                   67.516
 (.110490
                                   17.386
 C.062246
                                   63.645
 C.067407
                                  387.126
 C. C25582
                                  275.073
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 C-021224
                                  137.406
 L.013756 __ ...
 C.037566
                                   45.802
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                                   47.463
 C.017020
                                  418.075
 6.609718
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 C.071512
                                  245.629
 6.031938
                                  173.477
 C.11C568
                                  66.536
                                   54.492
 C.UE2426
 C.077025
                                  316.663
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 6.038262
       FAM .....
GELS
                     DEFAULT _
15
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84.301 ]
 C.206893 C.165458 C.245164
                                  100.269
                                             80.281
 C.038377
           0.031616 0.044391
                                 71.424
                                             57.332
 C. 175956
           C.1496C4
                      C.221511
                                             12.591
                                                       70.361
                                   £7.283
 C.033976
           0. 029044
                     C.040713
                                             51.870
                                   62.278
                                                        97.035
 C.155855
           C. 135452
                     C.20C172
                                             65.581
                                   75.631
                                             46.578
 C.030040
           0.026811
                     0.037249
                                   54.026
                     C.200172
                                                        97.035 7
 C.155855
           C.135452
                                   75.631
                                             65.581
 C.03C040
           0.020811
                     C.C37249
                                   54.026
                                             46.578
                                                       167.335
 C.175956
           6.149664 G.221511
                                             72.591
                                   £7.283
 C.033976
           0.C25044 C.04C713
                                   62.278
                                             51.870
 C.155855
           C. 135452
                     C.20C172
                                   75.631
                                             65.581
                                                        97.035
                     C.037249
 C.03C040
           0.026811
                                   54.026
                                             46.578
                                                        69.164 -
                                                        57.035
 C.155855
           0.135452
                     C.20C172
                                   75.631
                                             65.581
 C.03C040
           0.026811 0.037249
                                             40.978
                                                        69.164 -
                                   54.026
                     0.037249
                                                       97.035 -
 C.155855
           C. 135452
                                   75.631
                                             65.581
 C. C3C040
           0.026811
                                   54.026
                                             46.978
 6.164635
           0.121438
                     C.178687
                                  108.165
                                             79.810
                                                       117.219
 C.045882
           0.635189
                     C. C45350
                                  88.440
                                             65.471
                                                        95.672
 C.153310
           0.115910 0.176510
                                  100.770
                                                       112.001
                                             76.204
                                                        51.505
 C.043111
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 C.126269
           0.102771 C.151325
                                   £3.077
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           C. C30313
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           C.C30313 0.042671
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 C. C364C5
                                   68.C92
                                             55.434
 C.153310
           C. 115910
                     0.170510
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                                             76.204
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 C.043111
           0.033747
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                    C. 151325
 C.124289
           G.1C2771
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           C.030313 0.042671
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           C.1C2771 0.151325
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           C. C3C313
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 C.138175
           C.118581
                                  102.730
                                             87.791
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 C.044595
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                                                       106.483
                                             73.232
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                      C.162084
 C. 126538
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 C.C41113
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           G.104159
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 C. C38493
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 C.117351
           C.1C4159
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 C.038493
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                                                       C. C99398
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 6.302028
                                  G. 103044
                                            C. 13C3C9
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 6.045378
                                                       0.013824
            C. C33129
                       G.026376
                                  C. C20915
                                            0.016589
                                                                  0.072544
                                                                             0.053418
 0.359120
           0.266428
                       C.214044
                                  0.155147
                                            0.124534
                                                       0.090016
 0.043276
           C. C316CC
                       0.025192
                                  C. C2J024
                                            C. 016314
                                                       0.013321
                                                                             0.051220
 C. 3369C2
            C. 251871
                       C.233377
                                  C. 149181
                                            C.115279
                                                       0.086939
                                                                  0.069608
 U.U41473
            C.C3C280
                       C.024162
                                  0.019246
                                            0.015721
                                                       0.612880
                       C.193471
                                  C.142831
                                                                  0.67201
                                                                             0.049502
 C.316525
            0.238354
                                            0.114611
                                                       0.C83818
           0.029132
 C. C40101
                       0.023461
                                  C.C18/57
                                            C.C15392
                                                       0.012683
 C.297888
           0.225753
                      ·C.184157
                                  0.136356
                                            C.110201
                                                       0.080982
                                                                  0.065062 0.048021
 C.C3E950
            0.020546
                       C.022888
                                  C.CL8307
                                            0.015212
                                                       0.012619
 C.281069
            0.214222
                       C. 175562
                                  0.131383
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                                            0.106335
 6.038121
            0.028055
                       C.022586
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                                             0.015121
                                                       0.012629
 C.265635
            C. 203357
                       C.167331
                                  0.125997
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                                             C. 102411
 C.037196
           U.C27441
                       0.022142
                                  C. C17923
                                                       0.012525
                                            0.014926
 6.251610
            C. 193275
                       C. 159564
                                                                  C. C59653
                                                                             C.044468
                                  0.120814
                                            C. 098559
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                                            C. C14612
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  238.013
                        203.440
                                   185.876
                                              173.780
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  160.433
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                                   125.286
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                                              103.218
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                                                         25.637
                                                         82.760
                                                                               67.695
  134.743
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                        111.816
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   61.662
              52.227
                         45.025
                                    37.364
                                              30.261
                                                         23.066
  122.176
             105.801
                        101.483
                                    50.558
                                              83.576
                                                         74.498
                                                                    68.555
                                                                               60.725
                         40.451
                                                         20.873
   55.285
              40.882
                                    33.678
                                              27.331
             1CC.265
                                                                               54.865
  111.274
                         92.639
                                    82.008
                                              76.122
                                                         67.634
                                                                    62.116
   49.916
              42.347
                         36.013
                                    30.510
                                              24.810
                                                         18.984
  101.737
              51.963
                         85.075
                                    75.845
                                                         61.823
                                                                    56.652
                                                                               49.919
                                              69.726
                                    27.177
              30.468
                         33.284
                                                         17.346
   45.304
                                              22.627
                                                                    52.026
                                                                               45.656
   93.349
              84.655
                         18.471
                                    69.971
                                               64.280
                                                          56.869
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                                                                    48.037
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                         72.610
                                    64.806
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   38.132
              32.255
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 C.123124
           0. 640343
                       C. C72663
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                       C. 51 1327
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            G. 617661
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                                  C. (509C1
                                            C. C42670
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           C. 5547CE
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                                  C. 327360
                                                                  C. 155150
                                             C. 262740
                                                       0.192834
 C. C93449
            J. C6891J
                       0.455657
                                  0.045317
                                            0.036093
                                                       0.032464
 0.666159
            6.450969
                       0.395180
                                  C.251309
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                                                                  (.139977
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            C. 063064
 C. 085C74
                       C. C51185
                                  C.C41838
                                             0.035325
                                                       C.C30241
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            0.443537
                       C. 356524
                                                                             0.095659
 C.606155
                                  C.263033
                                            0.212406
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 C.C78391
            0.658465
                       C. C4 1688
                                  C. C3515E
                                             C. 033169
                                                       0.C28511
 C.56C519
            0.408517
                       0.327684
                                  C.241520
                                             C.195245
                                                       0.145387
                                                                  C.118381
                                                                             C. C89225
 C. C7 35 C2
            0.C55287
                       C.0454C3
                                  C.C. 7550
                                             C-C32011
                                                       0.C277C3
 C.5245EU
            0.381368
                                                                  C. 110456
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                                             C. 181440
 C.C65281
            C. 052427
                       C. C43260
                                  C. C35917
                                            C.030864
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 C. 494525
            0.359367
                       C. 287188
                                  C. 210739
                                             C.17C122
                                                       0.126854
 6.065474
            6. 649969
                      0.041323 0.034535
                                            C. C25816
                                                       0.026058
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# DESCRIPTION OF SYSTEM OUTPUTS

TITLE PAGE Print the name of user, job code, job name, TCC site and line information. The top and bottom margin of title page is 2 and 1 inch respectively.

PRINT/DICTIONARY Under PRDICT page counter, upper right corner of the page, entire dictionary to be printed in alphabetical order, and in groups.

PRINT/INPUTS Lists the input cards

- 1. Program control cards;
- 2. Job inputs NDT data processing;
- 3. Job inputs thickness design and cost-benefit analysis.

RUN/NDT1/PLOT Under NDT1 page counter, data processing in sequence starts from the first set of each NDT data group and then the first card of each test number in NDT machine data;

- Summary of NDT data on SUB for statistical correlation of E and DSM, if there are NDT and DSM data on subgrade;
- Summary of NDT data on PAV for statistical correlation of E and DSM if there are NDT and DSM data on existing pavements;
- 3. Sorted by test number;
- 4. Sorted by location of test;
- 5. Sorted by date/calibration;
- Calibration factor input listings and computed factors;
- Grid identification input listing;
- 8. Test identification only valid test numbers are printed.

Under DFPLOT page counters, if PLOT is specified on RUN card, the machine data of each test in sequence of input order will be plotted on a sheet containing not more than five test sets.

RUN/NDT2 Under NDT2 page counter,

- 1. For each PLOT card, the E-value data group will be plotted on one or
  - more pages with the heading specified.
- 2. If AVERAGE is specified on GRID card, the mean value minus one standard deviation of that group, coded as AREA-E, will also be plotted. At the completion of NDT2 plotting, the computer operation will be temporarily interrupted. The AREA-E values shall be compiled for subsequent NDT3, PFL and PAVDES operations.

RUN/NDT3 Under NDT/3 page counter,

- Listing of existing pavements in simplified group of PFLPAV for PFL analysis.
- 2. NDT inventory file showing four E-values for each facility segment.

# RUN/PFL

- 1. Under ATM page counter, listing aircraft movements which is equal to the product of first year average daily movement and airport traffic distribution for each facility segment.
- 2. Under OPWGT page counter, the operational weights of all aircraft will be listed for the specified RANGE and LOAD FACTOR on the input cards. If the input range and load factor are blocks, default values will be used to analyze the aircraft movement defined in the ADM data group.
- 3. Under AND/ANS page counter, equivalent single type aircraft operation will be listed for each class and facility to be designed. For each class of pavement, only the first two facilities are printed.
- 4. Under PFL page counter, summary of present functional life is listed. The service life reflecting aircraft riding quality is shown under "Governed by DEF/DI" while that reflecting maintenance needs is given under "Governed by STR/MT". For any anticipated service life longer than five years, the listing shows only > 5.00.

# RUN/PAVDES

- 1. Under ATM page counter, listing aircraft movements which is equal to the product of average daily movement and airport distribution for each facility segment during the design service life in intervals of 5, 10, 15 and/or 20 years.
- Under OPWGT page, the operational weights of all aircraft will be listed. It is similar to, but not necessary the same, that shown under "RUN PFL".
- 3. Under AND/ANS page counter, equivalent single type aircraft operation will be listed. The format is similar to that shown under "RUN PFL".
- 4. Under CED page counter, the computed engineering data relating to aircraft load repetitions, NDT E-value of subgrade deflection, stress limits, and thickness analysis to two drainage and three traffic conditions are tabulated. There are four new pavements, LCF, AC, CC and CCL, and three overlays, LC/PAV, CC/PAV and AC/PAV. The composition of existing pavement coded as PFLPAV, have been used in the design of asphalt overlay AC/PAV.
- 5. Under PAV page counter, the pavement data relating to functional requirements, governing condition of design and cost elements are tabulated. Similar to CED listing, seven types of pavement are compiled.
- 6. Under COBEN page counter, the results of cost-benefit analysis are listed. This is the summary of summaries of the PAVBEN computer operation.

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# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# NONDESTRUCTIVE PAVEMENT EVALUATION

A PARTIAL FULFILLMENT OF THE FAA VALIDATION PROGRAM BY NAI C. YANG AND ASSOCIATES, ENGINEERS, P. C. THIS IS A PROPRIETARY PROGRAM DEVELCHED BY NAI C. YANG AND ASSCCIATES, ENGINEERS, PC PRICR TO FAA VALIDATION. THE USE OF THIS COMPUTER PROGRAM SHALL BE CONFINED TO THOSE APPROVED BY NAI C. YANG, AND ALSO, THE FAA UNTIL THE PROGRAM OF NONDESTRUCTIVE EVALUATION OF CIVIL AIRPORT PAVEMENTS IS OFFICIALLY ADOPTED AND IMPLEMENTED.

USER: H. TOMITA SITE: TCC CREATED AT:

JAN 23, 1979

50:06:08

THE FAA UNDER THE PRESENT CONDITION ASSUMES NO RESPONSIBILITIES NOR OBLIGATIONS FROM THE USE OF THE PRUGRAM AND THE INTERPRETATION OF ITS OUTPUTS

# NAI C. YANG. ENGINEERING CUNSULTANT

#### NDT1 1

# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# SUMMARY OF MOT DATA ON SUB 130. IN. PLATE) FOR STATISTICAL CORRELATION OF E AND DSM

					SUMZ	CSM(1)	DSM(1)	DSM(W)	DSM(W)		
TEST	LCCATION	DATE	TEMP	H(1)	E-6		15		/E	E-VALUE	
NC.	STA OFFSE	CALIB	DEGE	HZ	IN/LB	KIP/IN	IN	KIP/IN	IN		
113-0	N331.3 R8	15/1	52.0	9.00	2.5499	478.	36.59	720.	55.08	13072.	
114-C	RC25.0 R8	14/3		7.98	3.1564	355.	33.62	660.	62.50	10561.	
115-0	RG25.J L8	15/1		7.99	3.2469	354.	34.47	633.	58.44	10266.	
116-0	N035.5 R8	14/3		6.00	2.9130	470.	41.06	680.	59.43	11443.	
117-0	P061.0 R8	14/3	53.5	5.97	3.2110	457.	44.03	620 .	59.73	10381.	
118-0	MC15.9 CC	14/1		6.99	2.8486	454.	38.80	580.	49.57	11702.	
119-0	NC20.0 F.4.	2 14/1		7.00	3.2743	391.	38.41	590 .	57.95	10180.	
124-6	NJ22.3 L4	2 14/1		7.00	3.0105	453.	40.87	580.	52.38	11073.	
121-0	PC12.5 L4	-		7.00	2.7615		42.08		52.19	12071.	
122-0	R029.0 L4			7.99			36.21			13744.	
123-0	RC29.0 R4			7.99					50.82	12396.	
124-0	MC37.0 L4			8.60	2.4778				52.78	13453.	
125-0	M038.0 R4			7.00						10492.	
			MINIMU	M VALU	E:	354.	33.62	580.	49.57	10180.	
			MAXIMU	M VALU	E:	508.	44.03	770.	62.50	13744.	
			MA	N VALU	5:	444.	38.27	645.	55.77	11602.	
		COEF	. OF V	ARIANC	E:	0.131	0.087	0.093	0.071	0.108	
			SU	MMATIC	N:	0.577E	04	0.838E	04	0.151E	06
				SOUAR			27		07		10
	S	UM CF (					80				
				F TEST		13					

LINEAR CORRELATION: E-VALUE = 16.76 X DSM(1) + 4162.
CORRELATION COOFFICIENT: 0.78

LINEAR CORRELATION: E-VALUE = 16.24 X DSM(W) + 1134.
CORRELATION COEFFICIENT: 3.77

NAI C. YANG. ENGINEERING CONSULTANT

#### IDT1 2

# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# SUMMARY OF HOT CATA ON PAV (18. IN. PLATE) FOR STATISTICAL CURRELATION OF E AND OSM

					SUMZ	CSM(1)	DSMILL	DSM(W)	DSMINI	
TEST	LCCATION	DATE	T =MP	H(1)	E-6	Lamili	/E	Dantar	/E	E-VALUE
NC.	STA OFFSET	The state of the s	-	HZ	IN/LB	KIP/IN	IN	KIP/IN	IN	
									-	
1-0	A000.5 R12	15/1	50.7	10.01	0.3094	2817.	15.69	6080.	33.86	179537.
2-0	ACC2.5 L12	15/1		10.00	0.3094	2806.	15.63	6030.	33.86	179554.
3-0	AG04.5 K12	15/1		8.98	1.3634	695.	17.05	1600.	39.27	40747.
4-0	ACR6.5 L12	15/1		8.98	1.2325	687.	15.25	1760.	39.04	45077.
5-0	A008.5 R12	15/1		7.99	1.5585	610.	17.11	136C.	36.15	35647.
6-0	AC10.5 L12	15/1		7.98	1.5198	608.	16.65	1230.	35.02	36555.
7-0	A012.5 R12	15/1		8.01	1.5004	633.	17.09	1230.	34.57	37028.
0-8	AC15.0 L12	15/2		7.99	1.5270	624.	17.15	1320.	36.28	36383.
9-0	A017.5 R12	15/2		9.02	1.6016	599.	17.25	1440.	34.59 35.36	34688. 40722.
	* AL23.3 R12	100000000000000000000000000000000000000	44.4	9.00	1.3628	606.	14.90	1670.	39.25	40766.
12-C	AC26.0 L12	15/2	****	9.00	1.5333	568.	15.68	1400.	38.64	36232.
13-0	AC29.3 R12	15/2		9.00	1.4591	587.	15.43	1520.	39.92	38375.
14-0	AC32.0 L12	15/2		9.61	1.2864	659.	15.25	1760.	40.75	43188.
15-0	AC35.0 R12	15/2		9.00	1.4227	624.	15.98	1200.	30.73	39049.
16-0	AC37.5 L12	15/2		8.99	1.3999	618.	15.56	1270.	30.24	39686.
17-C	A040.0 R12	15/2		8.99	1.3760	635.	15.73	156C.	38.64	40375.
38-C	A042.5 L12	15/2		9.02	1.3814	645.	16.05	1447.	35.81	40217.
19-0	A045.5 R12	15/2	46.4	9.00	1.3675	632.	15.56	1440.	35.45	40625.
21-0	A048.5 L12	16/1		8.00	1.7100	512.	15.75	1360.	41.86	32489.
21-0	A051.5 R12	16/1		7.98	1.5080	619.	16.81	1480.	40.17	36839.
35-0	A054.5 112	16/1		8.01	1.3523	691.	16.82	1440.	35.05	41983.
23-0	AC57.5 P12	16/1		7.98	1. 9025	456.	15.62	1200.	41.09	29202.
24-C	AC60.5 L12	16/1		8.00	1.2791	754.	17.36	1520.	35.00	43432.
25-0	AGE3.5 R12	16/1		8.00	1.4394	645.	16.71	1440.	37.31	38597.
26-0	A^65.5 L12	16/1		8.00	1.4627	616.	16.21	1520.	40.02	37982.
27-C	AC67.5 F12	16/1		8.00	1.6085	547.	15.34	1360.	39.38	
29-C.	AC71.5 R12	16/1		7.99	1.7093	515.	15.85	1280.	39.38 41.68	32501.
29-0 30-0	AC73.5 L12	16/1		8.90	1.8785	456.	15.69	1150.	39.22	28792. 29575.
31-0	AC75.5 R12	16/1		8.00	2.0217	465.	16.92	1000.	36.39	27480.
32-0	A077.5 L12	16/1	54-6	10.01	0.3239	2702.	15.75	5440.		171542.
33-0	AC79.5 R12	15/4	- 100	10.00	U.3355	2608.	15.75	5840.	35.27	
34-C	8016.5 L12	13/2		7.98	1.7142	565.	17.43	960.	29.62	32409.
35-0	8022.5 R12	13/2		7.99	1.5245	730.	20.05	1200.	32.93	36442.
36-0	8025.5 L12	13/2		7.99	1.7184	644.	19.93	1040.	32.17	32331.
37-0	BC28.5 R12	13/2		7.98	1.4890	769.	20.61	1200.	32.16	37319.
38-0	8031.5 L12	13/2		7.98	1.6361	671.	19.78	1120.	32.98	33955.
39-0	8034.5 R12	13/2		8.01	1.7193	660.	20.44	1040.	32.18	32313.
40-0	8037.5 L12	13/2		7.98	1.6466	686.	20.32	1030.	32.01	33740.
41-0	8040.5 R12	13/2	59.7	7.39	1.7078	623.	19.84	1040.	33.09	31427.
42-0	8644.0 L12	13/2		7.98	1.6156	674.	19.59	1120.	32.57	34387.
43-C	BC47.5 R12	13/2		9.01	1.4847	730.	19.51	1160.	31.00	37420.

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# EURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# SUMMARY OF NOT DATA ON PAV (18. IN. PLATE) FOR STATISTICAL CORRELATION OF E AND DSM

					SUMZ	CSM(1)	DSM(1)	DSM(W)	DSM(W)	
TEST	LOCATION	DATE		11(1)	E-6		16		/E	E-VALUE
NÚ.	STA OFFSET	CALIB	DEGF	HZ	IN/LB	KIP/IN	IN	KIP/IN	IN	
44-0	8051.0 L12	13/2		8.98	1.4750	720.	19.12	1200.	31.86	37665.
45-6	CC17.0 R10	15/2		8.00	2.2169	405.	16.18	840.	33.52	25060.
46-0	C020.0 L10	12/1		7.98	1.3197	718.	17.05	1600.	38.01	42398.
47-0	C023.0 R10	12/2	51.0	7.38	1.9281	488.	16.04	1360.	44.75	30390.
48-0	C026.0 L10	12/2		7.99	1.5816	576.	16.39	1520.	43.27	35126.
49-0	C029.J K10	12/2		9.00	1.0440	943.	17.71	1600.	30.07	53213.
50-C	CC32.0 L10	12/2		8.99	1.C340	870.	16.98	1640.	32.00	51248.
51-0	CC35.0 R10	12/2		7.99	1.2321	868.	19.25	1360.	33.16	45091.
52-C	CC38.0 L10	12/2		9.00	1.1398	301.	16.43	1640.	33.65	48739.
53-0	CC41.0 R10	12/2		9.00	1.2584	793.	17.96	1400.	31.71	44149.
54- 3	C044.3 L13	12/2		7.98	1.8345	572.	18.83	1020.	33.68	30284.
55-0	C041.0 R10	12/2	67.5	8.00	1.5758	671.	19.04	1160.	32.90	35256.
56-7	C053.0 L13	12/2		8.50	2.2606	467.	18.99	880.		. 24576.
57-C	DC27.5 S50	12/1		6.99	2.9279	392.	20.64	540.	28.46	18975.
56-0	0030.5 S5C		60.3	8.00	1.6146	690.	20.06	1120.	32.55	34409.
59-0	0033.5 550	12/2		8.10	1.7206	598.	18.54	1120.	34.69	32289.
60-0	E032.5 NOO	12/2		7.99	2.1595	449.	17.44	960.	37.32	25727.
61-0	E044.3 NGC	12/2		8.01	1.3622	78C.	19.13	1440.	35.31	40782.
62-C	EC50.0 NOO	12/2		6.99	2.3792	478.	20.48	780.	33.40	23350.
63-0	F001.0 L10		52.5	6.00	1.7454	644.	20.24	1020.	32.04	31830.
64-0	F004.5 R10	13/2		7.98	1.6261	659.	19.30	1120.	32.78	34164.
65-0	FCC8.0 L10	13/2		7.98	1.5983	720.	20.71	1120.	32.22	34759.
66-0	GC03.0 R12	12/2		8.00	1.6741	587.	17.70	1160.	34.96	33185.
67-0	GCC6.0 L12	12/2		7.99	1.4899	720.	19.30	1280.	34.33	37288.
66-3	GU09.5 R12	12/2		7.99	1.4809	724.	19.36	1220.	32.52	37514.
69-0	GC12.0 L12	12/2	65.4	7.99	1.3870	793.	19.81	1260.	31.46	40055.
70-G	G015.0 R12	12/2		9.01	1.3470	760.		1387.	33.46	41245.
71-0	G018.0 L12	12/2		8.00	1.5323	693.	19.12	1200.	33.10	36255.
72-0	G021.0 R12		55.9	7.99	1.6352	703.	29.70	1040.	30.61	33974.
73-0	H007.5 U53	12/2		9.00	3.8288	1208.	18.02	1920.	28.64	67034.
74-0	H010.5 U50	12/2		8.99	0.8242	1188.	17.62	1920.	28.49	67402.
75-0	HC13.5 U50	12/2		8.98	1.1213	857.	17.29	1730.	34.31	49545.
76-0	1000.5 R10	13/1		8.99	1.1145	868.	17.42	1680.	33.70	49847.
77-C	1003.5 L10	13/1	57.0	8.99	1.1204	851.	17.17	1560.	31.46	49584.
78C	1006.5 R13	13/1		9.00	1.1398	842.	17.28	1600.	32.83	48742.
79-C	1009.5 110	13/1		9.00	1.0551	913.	17.34	1670.	30.39	52652.
800	1012.5 R10	13/1		8.99	1.3092	729.	17.18	1400.	32.99 32.80	42434. 46335.
82-0	IC18.5 R1C	13/1		8.99	1.1990	78i.	16.86	1520.	33.04	41160.
83-0	1021.5 L10		58.7	8.98	1.3497	743.	18.04	1360.	30.41	39465
84-0	1024.5 K1C	15/4	15.1	10.00	0.4770	689.		3440.	29.54	
85-0	1024.5 105	15/4		9.00	1.0402	1019.	16.48	1920.	35.95	53406.
86-C	J002.0 L10		58.8	8.01	2.1063				33.36	26376.
20-0	JULY TO LIU	10/3	20.0	0.01	2.1003	518.	19.65	880.	33.36	203100

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# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# SUMMARY OF NOT CATA ON PAV (18. IN. PLATE) FOR STATISTICAL CORRELATION OF E AND DSM

						SUMZ	CSM(1)	DSM(1)	DSM(W)	DSM(W)		
TEST	LCCAT	ICH	DATE/	TEMP	H(1)	3-6		/E		/E	E-VALUE	
NL.	STA CF	FSET	GALIB	DEGF	HZ	IN/LB	KIP/IN	IN	KIP/IN	IN		
87-0	J005.0	RIC	16/3		8.00	1.7926	642.	20.71	960.	30.98	30992.	
88-C	K002.0	LIO	15/1		4.99	1.4050	946.	23.93	1560.	39.45	39542.	
E9-0	K004.3	RID	16/3	62.2	6.00	1.4882	715.	19.16	1169.	31.07	37330.	
50-U	K006.5	110	16/3		8.97	1.1043	969.	19.26	1600.	31.80	50309.	
91-0	K009.0	810	16/3		9.99	0.8430	1216.	18.45	1960.	29.74	65899.	
92-C	KC12.0	L10	16/3		8.99	0.9458	1107.	18.84	1800.	30.64	58742.	
53-0	K(15.0	RIO	16/3		9.00	1.1856	846.	18.10	1520.	32.44	46858.	
54-C	K018.0	LIC	16/3		8.99	1.4124	698.	17.74	1320.	33.56	39335.	
95-C	K021.0	RIO	16/3		9.00	1.1283	921.	18.70	1520.	30.87	49237.	
SE-0	K024.0		16/3		9.98	7.8559	1166.	18.00		30.81	64911.	
97-0	K027.0	RIO	16/3		9.00	1.1323	970.	19.78	1520.	30.99	49045.	
68-0	K030.0	LIO	16/3		3.98	1.0+33	1028.	19.31	1720.	32.30	53248.	
59-3	K033.3	F10	16/3	59.8	8.98	1.4498	682.	17.80	1220.	31.32	38319.	
100-0	KC36.0	L10	16/3		8.99	1.4414	709.	18.40	1160.	30.10	38543.	
101-0	KL39.3	R10	16/3		3.22	1.5968	689.	19.82	1120.	32.19	34792.	
102-0	KC42.0	L10	16/3		7.99	1.5202	743.	20.33	1080.	29.55	36544.	
103-0	KU45.0	RIO	16/3		8.00	1.5557	721.	20.18	1080.	33.24	35710.	
104-C	KC48.0	110	16/3		9.00	1.3651	713.	17.52	1280.	31.45	47698.	
105-C	L051.0	COO	13/2		7.99	1.6638	667.	19.97	1160.	34.74	33391.	
166-C	LC53.5	COS	13/2		8.00	1.6900	662.	20.13	1120.	34.07	32874.	
107-0	L056.0	COO	13/1		7.99	2.0024	519.	18.72	960.	34.50	27745.	
1C8-C	L049.0	MOO	13/2		7.09	2.3665	444.	18.89	776.	32.80	23476.	
109-C	LC51.0	NOC	13/2		7.99	2.3443	457.	19.29	780.	32.91	23698.	
110-0	L053.5	NOC	13/2		8.00	2.2244	476.	19.06	810.	32.43	24975.	
111-0	L060.0	NOO	13/1		8.00	1.8388	575.	19.02	1020.	33.76	30213.	
112-0	L062.0	NOO	13/1		8.01	1.7654	610.	19.37	1020.	32.41	31469.	
				VINI MUI	M VALU	E:	392.			28.46	18975.	
				UMIXAN			2817.	23.93			179554.	
					VALU		780.	18.01	1438.	34.01	44130.	
			CCEF	OF V			C.551		0.615	0.101	3.629	
					MMATIC		0.8743		0.1675		J.494E	
				SUM OF			0.8865		0.341E		0.3045	12
		SUM		EVALUE		):	0.5162	10	0.101E	11		
			NUI	MBER O	F TEST	<b>S</b> :	112					

LINEAR CORRELATION: E-VALUE = 63.84 X DSM(1) - 5667.
CCRRELATION COEFFICIENT: 0.99

LINIAR CORRELATION: E-VALUE = 29.93 X DSM(W) - 393.
CORRELATION COEFFICIENT: 0.99

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# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# SUMMARY OF NOT DATA, SCRIED BY TEST NUMBER

TEST NC.	LCCATION STA OFFSET	DATE/ CALIB		H(1)	SUMZ E-6 IN/LB	CSM(1) KIP/IN	DSM(1) /E IN	DSM(W) KIP/IN	DSM(W) /E IN	E-VALUE
1-0	A000.5 R12	15/1	50.7	10.61	3.3094	281 7.	15.69	6080.	33.86	179537.
2-0	AU02.5 L12	15/1		10.00	0.3094	2836.	15.63	6080.		179554.
3-0	AU04.5 R12	15/1		8.98	1.3634	695.	17.05	1600.	39.27	40747.
4-0	ACO6 .5 L12	15/1		8.98	1.2325	687.	15.25	1760.	39.04	45077.
5-0	A008.5 R12	15/1		7.99	1.5585	610.	17.11	1360.	38.15	35647.
6-0	A010.5 L12	15/1		7.98	1.5198	608.	16.55	1280.	35.02	36555.
7-0	A212.5 R12	15/1		8.01	1.5004	633.	17.09	1280.	34.57	37028.
8-C	A015.0 L12	15/2		7.99	1.5270	624.	17.15	1320.	36.28	36383.
8-1	AC15.0 LO6	15/2		8.00	1.6250	570.	16.67	1240.	36.27	34187.
8-2	AC15.0 L18	15/2		8.00	1.5860	583.	16.64	1280.	36.54	35028.
9-3	AG15.0 L30	15/1		8.00	1.7794	50 6.	16.21	1200.	38.44	31221.
8-4	AC15.0 L50	15/1		7.98	1.5648	602.	16.96	1320.	37.18	35503.
8-5	AC15.0 L7C	15/1	+7.8	8.01	2.2744	385.	15.77	1040.	42.58	24427.
8-6	AC15.0, L83	15/1	1	7.98	3.2565	363.	35.48	530.	56.66	10236.
9-0	AC17.5 R12	15/2		8.00	1.6016	599.	17.25	1200.	34.59	34688.
10-0	AC20.0 L12	15/2		9.02	1.3643	607.	14.90	1440.	35.36	40722.
11-0	A023.0 R12	15/2	44.4	9.00	1.3628	606.	14.87	1600.	39.25	40766.
12-0	AC26.0 L12	15/2		9.00	1.5333	568.	15.68	1400.	38.64	36232.
13-7	A329.0 R12	15/2		9.00	1.4591	597.	15.43	1520.	39.92	38075.
14-0	AC32.0 L12	15/2		9.01	1.2564	659.	15.25	1769.	40.75	43188.
15-C	A035.) R12	15/2		9.00	1.4227	624.	15.98	1200.	30.73	39049.
16-0	AC37.5 L12	15/2		3.99	1.3999	618.	15.56	1200.	30.24	39686.
17-0	AC40 . J R12	15/2		8.99	1.3760	635.	15.73	1560.	38.64	40375.
18-0	AC42.5 L12	15/2		9.02	1.3814	645.	16.05	1440.	35.81	40217.
19-0	AC45.5 R12	15/2	46.4	9.00	1.3675	632.	15.56	1440.	35.45	40625.
20-0	AC48.5 L12	16/1		8.00	1.7100	512.	15.75	1360.	41.86	32489.
21-0	AC51.5 R12	16/1		7.98	1.5080	619.	16.81	1480.	40.17	36839.
22-0	A054.5 L12	16/1		8.01	1.3523	691.	16.82	1443.	35.05	41083.
23-0	AC57.5 R12	16/1		7.98	1.9025	456.	15.62	1200.	41.09	29202.
24-0	A060.5 L12	16/1		8.00	1.2791	754.	17.36	1520.	35.00	43432.
25-0	AC63.5 R12	16/1		8.00	1.4394	645.	16.71	1440.	37.31	38597.
25-1	AC63.5 RO6	16/1	53.4	7.98	1.7189	509.	15.76	1280.	39.60	32321.
25-2	AC63.5 R18	16/1		7.98	1.5480	593.	16.51	1360.	37.89	35889.
25-3	AC63.5 R30	16/1		8.01	1.4247	665.	17.05	1520.	38.98	38996.
25-4	AC63.5 R50	15/1		8.00	1.4323	649.	16.74	1447.	37.13	38787.
25-5	AC63.5 R70	16/1		7.99	1.6460	545.	16.15	1440 .	42.68	33740.
25-6	AC63.5 R80	14/3		7.97	2.8683	411.	35.40	640.	55.07	11621.
26-C	4065.5 L12	16/1		8.30	1.4627	616.	16.21	1520.	40.02	37982.
27-C	AC67.5 F.12	16/1		8.00	1.6085	547.	15.84	1360.	39.38	34538.
28-0	AC69.5 L12	16/1		7.99	1.7093	515.	15.85	1280.	39.38	32501.
29-0	AC71.5 R12	16/1		7 . 9 8	1.9295	456.	15.84	1200.	41.68	28792.
36-0	AC73.5 1.2	15/1		8.00	1.8785	464.	15.69	1160.	39.22	29575.
31-C	AC75.5 R12	16/1		8.00	2.0217	465.	16.92	1070.	36.39	27480.
32-0	AC77.5 L12	16/1	54.6	10.01	0.3239	2702.	15.75	5440.	31.71	171542.

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# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# SUMMARY OF NOT CATA, SCRIED BY LOCATION

					SUMZ	DSM(1)	CSM (1)	DSM(W)	DSM(W)	
TEST	LCCATION	DATE/	TEMP	H(1)	Ē-6		15		/E	E-VALUE
NC.	STA OFFSET	CALIB	DEGF	HZ	IN/LB	KIP/IN	IN	KIP/IN	IN	
1-0	A000.5 R12	15/1	50.7	10.01	0.3094	2817.	15.69	6080.	33.86	179537.
2-0	AGG2.5 L12	15/1		10.00	0.3094	2806.	15.63	6030.		179554.
3-0	ALU4.5 R12	15/1		8.98	1.3634	695.	17.05	1600.	39.27	40747.
4-0	A006.5 L12	15/1		8.98	1.2325	687.	15.25	1760.	39.04	45077.
5-7	ACC8.5 R12	15/1		7.99	1.5585	61C.	17.11	1360.	38.15	35647.
6-0	A010.5 L12	15/1		7.98	1.5198	608.	16.65	1280.	35.02	36555.
7-0	A:12.5 R12	15/1		8.01	1.5004	633.	17.09	1280.	34.57	37028.
8-1	A015.0 LC6	15/2		9.00	1.6250	570.	16.67	1240.	36.27	34187.
8-0	AC15.0 L12	15/2		7.99	1.5270	624.	17.15	1320.	36.28	36383.
6-2	AC15.0 118	15/2		8.00	1.5860	583.	16.64	1230.	36.54	35028.
8-3	A015.0 L30	15/1		8.00	1.7794	506.	16.21	1230.	38.44	31221.
8-4	A015.3 L5J	15/1		7.98	1.5648	692.	16.96	1320.	37.18	35503.
8-5	AC15.0 L70	15/1	47.8	8.01	2.2744	385.	15.77	1040.	42.58	24427.
8-6	A015.0 L80	15/1		7.98	3.2565	363.	35.46	580.	56.66	13236.
9-C	A017.5 R12	15/2		8.00	1.6016	599.	17.25	1200.	34.59	34688.
10-C	A020.0 L12	15/2		9.02	1.3643	607.	14.90	1440.	35.3€	40722.
11-0	AC23.3 R12	15/2	44.4	9.00	1.3628	606.	14.87	1670.	39.25	40766.
12-C	A026.0 L12	15/2		2.00	1.5333	568.	15.68	1400.	38.64	36232.
13-2	AC29.0 R12	15/2		9.00	1.4591	587.	15.43	1520.	39.92	38075.
14-0	A032.1 L12	15/2		9.01	1.2864	659.	15.25	1760.	40.75	43188.
15-0	A035.0 R12	15/2		9.00	1.4227	624.	15.98	1230.	3C.73	39049.
16-0	A037.5 L12	15/2		8.99	1.3999	618.	15.56	1200.	30.24	39686.
17-0	AC40.0 R12	15/2		8.99	1.3760	635.	15.73	1550.	38.64	40375.
18-3	A042.5 L12	15/2		9.02	1.3814	645.	16.05	1440.	35.81	40217.
19-0	A045.5 R12		46.4	9.00	1.3675	632.	15.56	1440.	35.45	40625.
20-0	A048.5 L12	16/1		8.00	1.7100	512.	15.75	1360.	41.86	32489.
21-C	AC51.5 R12	10/1		7.98	1.5080	619.	16.81	1490.	40.17	36839.
22-0	AG54.5 L12	16/1		8.01	1.3523	691.	16.82	1440.	35.05	41083.
23-0	AC57.5 R12	16/1		7.98	1.9025	456.	15.62	1200.	41.09	29202.
24-0	AC60.5 L12	16/1		8.00	1.2791	754.	17.36	1520.	35.00	43432.
25-1	AC63.5 RO6		53.4	7.98	1.7189	509.	15.76	1280.	39.60	32321.
25-0	AC63.5 R12	16/1		8.00	1.4394	645.	16.71	1440.	37.31	38597.
25-2	A063.5 R18	16/1		7.98	1.5480	593.	16.51	1360.	37.89	35889.
25-3	AC63.5 R30	15/1		8.01	1.4247	665.	17.05	1520.	38.98	38996.
25-4	AC63.5 F.50	16/1		8.00	1.4323	649.	16.74	1440.	37.13	38787.
25-5	AC63.5 R70	16/1		7.99	1.6466	545.	16.15	1440.	42.68	33740.
25-6	A063.5 R80	14/3		7.97	2.8683	411.	35.40	640.	55.07	11621.
26-0	AG65.5 L12	16/1		8.00	1.4627	616.	16.21	1520.	40.02	37982.
21-0	AC67.5 R12	16/1		8.00	1.6085	547.	15.84	1360.	39.38	34538.
28-0	A069.5 L12	16/1		7.99	1.7093	515.	15.85	1280.	39.38	32501.
29-3	AC71.5 P.12	16/1		7.98	1.9295	456.	15.84	1200.	41.68	28792
30-C	A073.5 L12	16/1		8.00	1.8785	464.	15.69	1160.	39.22	29575.
31-0	AC75.5 R12	16/1		8.90	2.0217	465.	16.92	1000.	36.39	27480.
32-0	A077.5 L12		54	10.01	0.3239	2702.	15.75	5440.		171542.
32-1	MUTTOS CLZ	10/1	74.0	10.01	0.3239	21020	15.15	3440.	21. 11	1113450

NAT C. YANC, ENGINEFRING CONSULTANT NOT1 13

BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

SUMMARY OF NOT DATA, SCRTED BY DATE/CALIB

						SUMZ	CSM(1)	DSM (1)	DSM(W)	DSM(W)	
	TEST	LCCATION	DATE/	TEMP	H(1)	5-6		15		/E	E-VALUE
	NO.	STA OFFSCT	CALIB	DEGE	HZ	I N/LB	KIP/IN	IN	KIP/IN	IN	
		6630 0 1 10	1241		7 00	1.2197	71.0	17.05	1400	38.01	42098.
	46-0	CC20.0 L10	12/1		7.98		718.	17.05	1600.	35.21	45438.
	46-1	CC20.0 L10	12/1		8.99	1.2227	687.	15.12	1600.		
	46-2	CC20.0 L10	12/1		8.00	1.3001	702.	16.42	1600.	37.44	42733.
	44-3	C020.1 L10	12/1		7.98	1.3197	718.	17.05	1600.	38.01	42098.
	46-4	CC23.0 L10	12/1		7.98	1.3080	774.	18.23	1600.	37.67	42475.
	57-0	0027.5 \$50	12/1		6.90	2.9279	392.	20.64	540.	28.46	18975.
	57-1	DC27.5 \$50	12/1		6.93	2.9279	392.	20.64	540.	28.46	18975.
	57-2	D027.5 S50	12/1		6.90	3.4002	294.	18.02	540.	33.05	16339.
	57-3	DU27.5 \$50		57.4	6.90	3.5272	293.	18.60	547.	34.28	15751.
	57-4	DU27.5 S50	12/1		9.90	2.2624	539.	21.93	540 .	21.99	24556.
	47-0	C023.0 K10	12/2	61.0	7.98	1.8281	488.	16.04	1360.	44.75	30390.
	48-0	CC26.3 L13	12/2		7.99	1.5816	576.	16.39	1520.	43.27	35126.
	49-0	CC29.0 R10	12/2		9.00	1.0440	943.	17.71	1620.	30.07	53213.
	50-0	CC32.3 L13	12/2		8.99	1.0340	870.	16.95	1640.	32.00	51248.
	51-0	CC35.0 R10	12/2		7.99	1.2021	868.	19.25	1360.	30.16	45091.
	52-0	CC38.0 L10	12/2		9.00	1.1398	801.	16.43	1640.	33.65	48739.
	53-0	C041.0 R10	12/2		9.00	1.2584	793.	17.96	1400.	31.71	44149.
	54-0	CC44.0 L10	12/2		7.98	1.8345	572.	18.69	1020.	33.68	30284.
	55-0	CC47.3 F1C	12/2	67.5	8.30	1.5758	671.	19.04	1160.	32.90	35256.
	56-0	C050.0 L10	12/2	• .• .	8.00	2.2606	467.	18.99	830.	35.81	24576.
	59-0	DC33.5 \$50	12/2		8.00	1.7206	598.	18.54	1120.	24.69	32289.
	60-0	E032.5 NO	12/2		7.99	2.1595	449.	17.44	960.	37.32	25727.
	61-0	E044.0 NO	12/2		8.01	1.3622	730.	19.13	1440.	35.31	40782.
	62-0	E050.0 NJO	12/2		6.99	2.3792	478.	20.48	780.	33.40	23350.
	66-0	GCC3.0 R12	12/2		8.00	1.6741	587.	17.76	1160.	34.96	33185.
	61-0	6306.7 112	12/2		7.99	1.4899	720.	19.30	1289.	34.33	37288.
	68-0	GC09.0 R12	12/2		7.99	F. 4839		19.36	1220.	32.52	37514.
	69-0	G012.0 L12			7.99		724.				43055.
				65.4		1.3870	793.	19.81		. 31.46	
	70-0	G015.0 R12	12/2		9.01	1.3470	760.	18.43	1380.	33.46	41245.
	71-C	GC18.0 L12	12/2		8.00	1.5323	693.	19.12	1200.	33.10	36255.
	73-0	HOC7 .5 U50	12/2		9.00	3.8288	1208.	18.32	1920.	28.64	67034.
	74-0	HC10.5 U50	12/2		8.99	0.8242	1188.	17.62	1920.	28.49	67402.
	75-0	HC13.5 U50	12/2		8.93	1.1213	857.	17.29	1770.	34.31	49545.
	76-0	1000.5 R10	13/1		8.99	1.1145	868.	17.42	1630.	33.70	49847.
	77-0	1003.5 L10	13/1	57.6	8.99	1.1204	851.	17.17	1550.	31.46	49584.
	78-0	1006.5 R10	13/1		9.00	1.1378	842.	17.28	1600.	32.83	48742.
	79-C	1009.5 L10	13/1		9.00	1.0551	913.	17.34	1600.	30.39	52652.
	80-0	1012.5 R13	13/1		8.59	1.3092	729.	17.18	1400.	32.99	42434.
	81-0	1015.5 L10	13/1		9.00	1.1990	761.	16.86	1520.	32.80	46335.
	82-0	IC18.5 P17	13/1		8.55	1.3497	743.	18.34	1360.	33.04	41169.
	63-0	1021.5 L10	13/1	59.7	8.98	1.4077	689.	17.47	1270.	30.41	39465.
1	107-0	LC56.0 CC0	13/1		7.99	2.0024	51 9.	18.72	960.	34.60	27745.
	111-0	LC63.3 NO3	13/1		8.00	1.8588	575.	19.02	1020.	33.76	30213.
1	112-0	LC62.0 NOO	13/1		8.01	1.7654	610.	19.37	1020.	32.41	31469.

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# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# CALIBRATICN FACTORS

DATE	TIME	CODE	RESPONSE E-6	AMPLITUDE E-1	FREQUENCY E-3
9/12/77	12/	0930/1	0.99900	0.99620	1.00000
5/12/77	12/	1330/2	0.99960	0.99700	1.00000
9/12/77	12/	1825/3	0.99810	C. 59840	1.00000
9/13/77	13/	1/0090	0.99810	C. 99500	1.00000
9/13/77	13/	1435/2	0.99950	C. 55790	1.00000
9/13/77.	13/	1855/3	0.99950	C. 99860	1.00000
9/14/77	14/	0904/1	0.99960	C. 99690	1.00000
5/14/77	14/	1130/2	0.99860	C. 99590	1.00000
9/14/77	14/	2238/3	0.99920	6.99730	1.00000
9/15/77	15/	2238/1	0.99920	C. 99730	1.00000
9/15/77	15/	1325/2	0.99680	C.9978C	1.00000
9/15/77	15/	0657/3	0.99990	C. 99690	1.00000
9/15/77	15/	2239/4	1.00000	C. 99800	1.00000
9/16/77	16/	2239/1	1.00000	C. 99800	1.00000
9/16/77	16/	2/0050	0.99960	C. 99690	1.00000
9/16/77	10/	1410/3	C.99900	C. 99560	1.00000
5/16/77	16/	1734/4	0.99950	6.99770	1.00000

# GRID ICENTIFICATIONS

RW 15-33
Ra 1-19
TW A
GATE/APRN
XTHS TO A.
TW B
TA C
APRON GA
TW D
TW E
TW F
APEN VANG
RW1-19EXT
TW NEW
XT N- GA NU
TW - RW19

NOT1 18

# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# TEST ICENTIFICATIONS

TEST	LCCATION	TIME CODE	TEMP	CSM(W)	LCAD/RAD.	PFLPAV	DRAINAGE
NE.	STA DEFSE	T	DEGF	E+3			
1-0	A000.5 R12		50.7	£08C.	3.0/ 9.0	13/007	NORM
2-0	4002.5 L12	15/0129/1		6080.	3.0/ 9.0	13/007	MACH
3-0	A004.5 R12	15/0142/1		160C.	3.0/ 9.0	2/AC2	NORM
4-0	ACC 5.5 L12	15/0154/1		1760.	3.0/ 9.0	2/AC2	NORM
5-0	AC08.5 R12	15/0212/1		1360.	3.0/ 9.0	2/AC2	MACH
6-0	4010.5 L12	15/0233/1		1280.	3.0/ 9.0	2/AC2	NORM
7-0	A012.5 R12	15/0245/1		1280.	3.0/ 9.0	2/AC2	NORM
8-0	A015.0 L12	15/0350/2		1320.	3.0/ 9.0	2/AC2	NORM
8-1	A015.0 L06	15/0400/2		1240.	3.0/ 9.0	2/AC2	NORM
8-2	4015.0 L18	15/0340/2		1280.	3. 0/ 9.0	2/AC2	MACH
8-3	AC15.0 L3C	15/0317/1		1200.	3.0/ 9.0	2/AC2	NORM
8-4	4015.0 LSC	15/0306/1		1320.	3. C/ 9.0	2/AC2	MACN
8-5	AC15.0 L70	15/0257/1	47.8	1040.	3.0/ 9.0	2/AC2	MACH
8-6	4015.C L3L	15/0019/1		580.	1.5/15.0	O/SUB	MSCN
9-0	AC17.5 R12	15/0434/2		1200.	3.0/ 9.0	2/AC2	NORM
10-0	A020.0 L12	15/0444/2		1440.	3.0/ 9.0	2/AC2	NORM
11-C	A023.9 R12	15/0422/2	44.4	1600.	3.0/ 9.0	2/AC2	NORM
12-0	AC20.C L12	15/0507/2		1400.	3.0/ 9.0	2/AC2	NORM
13-0	AC29.0 R12			1520.	3.0/ 9.0	2/AC2	MACH
14-0	A032.9 L12	15/0535/2		1760.	3.0/ 9.0	2/AC2	MACH
15-0	AC35.0 F.12	15/0606/2		1200.	3.0/ 9.0	2/AC2	NORM
16-0	AG37.5 L12	15/0620/2		1200.	3. C/ 9.0	2/AC2	NORM
17-0	A040.0 R12	15/0634/2		1560.	3.0/ 9.0	2/AC2	NORM
18-0	4C42.5 L12	15/0644/2		1440.	3.0/ 9.0	2/AC2	NORM
19-0	AC45.5 R12	15/0655/2	46.4	1440.	3.0/ 9.0	2/AC2	NORM
20-0	AC48.5 L12	16/0252/1		1360.	3.0/ 9.0	2/AC2	NORM
21-0	AG51.5 R12	16/0242/1		1480.	3.0/ 9.0	2/AC2	MACH
22-C	AC54.5 L12	16/0213/1		1440.	3.0/ 9.0	2/AC2	NORM
23-0	4057.5 R12			1200.	3.0/ 9.0	2/AC2	NORM
24-6	AC60.5 L12			1520.	3.0/ 9.0	2/AC2	NJRM
25-0	AC63.5 R12			1440.	3.0/ 9.0	2/AC2	NORM
25-1	AC63.5 RC6		53.4	1280.	3.0/ 9.0	2/402	NORM
25-2	AC63.5 R18			1360.	3.0/ 9.0	2/AC2	NORM
25-3	4C63.5 R30			1520.	3. C/ 9.0	2/AC2	NORM
25-4	A063.5 R50			1440.	3.0/ 9.0	2/AC2	NORM
25-5	A063.5 R70			1440.	3.0/ 9.0	2/AC2	NORM
25-6	AC63.5 RS2			640.	1.5/15.0	2/SUB	NORM
26-0	4065.5 L12			1520.	3.0/ 5.0	2/AC2	NORM
27-0	A067.5 R12			1362.	3.0/ 9.0	2/AC2	NORM
28-C	AC69.5 L12			1280.	3.0/ 9.0	1/401	NORM
29-0	AC71.5 R12			1200.	3.0/ 9.0	1/AC1	NORM
30-0	AC73.5 L12			1160.	3.0/ 9.0	1/401	NORM
31-C	AC75.5 R12			1000.	3.0/ 9.0	1/AC1	NORM
32-0	AC 77.5 L12		54.6	5440 .	3.0/ 9.0	13/007	NORM
33-0	AC79.5 R12			5840.	3.0/ 9.0	13/CC7	NORM
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DEPLOT 1

# BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

.15	•		•		•	TEST	NO.	CO	DE.	EVA	LUE.
.10	• •					Acno	.5R12			1.70	
.05						ACOO	.5L12		-		537.
.00							.5R12			1/9	554.
.95							•5L12		•	40	747 .
.90									:		077.
.85						ALUB	. 5R12		/	35	647.
.80											
.75											
.73											
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# BURLINGTON THE ERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# PUNWAY 15-33/PROFILE

CCATION	E-VAL	AREA-E	EMIN= 4000.	ESTEP= 300	0./
	•	· 179545. ·		•	
CGO.5R12					
002.5L12	179554.				
	SER PERS	. 34885			
CC4.5R12	40747.	X *			
226.5L12	45077.	X	*		
CC8.5R12	35647.	X*			
C10.5L12	36555.	X*			
012.5R12	37028.	X*			
C15.0L12	36383.	X*			
17.5R12	34688.				
020.0L12	40 722 .	X *			
23.0R12	40766.	X *			
025.GL12	36232.	X*			
(29.JR12	38075.	X*			
032.GL12	43186.	X *			
U35.0R12	35049.	X *			
37.5L12	39686.	X *			
C40.0R12	40375.	X *			
C42.5L12	46217.	x *			
045 SR12	40625.	X *			
C48.5L12	32489.	*X			
351.5R12	36839.	X*			
054.5112	41083.	X *			
57.5R12	29202	* X			
CEO.3L12	43432.	x *			
163.5R12	38597	x *			
165.3L12	37982.	X*			
067.5812	34538.	â.	4		
JUL SKIE	J4JJ66	. 27745			
069.5L12	32501.	X *			
71.5R12	28792	â T			
73.5L12	25575.	X*			
C75.5R12	27480 •	*			
13.3812	21400.	. 165589			
C77.5L12	171542	• 102204. •		•	-
579.5R12					
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AAAA	AAAAA	AA	AA	AA	AAAAAA	AAAAAAAAA	AA	AA	AA	AA	AA
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# BUKLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

# NONDESTRUCTIVE PAVEMENT EVALUATION

A PARTIAL FULFILLMENT CF THE FAR VALIDATION PROGRAM BY NAI C. YANG AND ASSOCIATES, ENGINEERS, P. C.

THIS IS A PROPRIETARY PROGRAM DEVELOPED BY NAI C. YANG AND ASSCCIATES. ENGINEERS, PC PRICK TO FAA VALIDATION. THE USE OF THIS CCMPUTER PROGRAM SHALL BE CONFINED TO THOSE APPROVED BY NAI C. YANG, AND ALSO, THE FAA UNTIL THE PROGRAM OF NONDESTRUCTIVE EVALUATION OF CIVIL AIRPORT PAVEMENTS IS OFFICIALLY ADOPTED AND IMPLEMENTED.

H. TOMITA

LSCK:

20:12:26 CREATED AT:

7,7

SI TE:

JAN 23, 1979

THE FAA UNDER THE PRESENT CONDITION ASSUMES NO RESPONSIBILITIES NOR OBLIGATIONS FROM THE USE OF THE PROGRAM AND THE INTERPRETATION OF ITS OUTPUTS

### BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

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EQUIVALENT LOAD REPETITIONS OF ALL AIRCRAFT - DEFLECTION CRITERIA
AAND
AANS
         EQUIVALENT LOAD REPETITIONS OF ALL AIRCRAFT - STRESS CRITERIA
         ASPHALT PAVEMENT
AC
AC/AC
         ASPHALT OVERLAY ON EXISTING ASPHALT PAVEMENT
         ASPHALT CVERLAY ON EXISTING CONCRETE PAVEMENT ASPHALT CVERLAY ON CONCRETE PAVEMENT
AC/CC
AC/CCA
         ASPHALT EVERLAY
ASPHALT PAVEMENT WITH CTB
AC/PAV
ACC
         FAA CENTRAL REGION
ACE
ACSTR
         ACTUAL WORKING TENSILE STRESS
         3 IN. EXAC
AC1
         6 IN. EXAC
AC2
AC3
AC4
         12 IN . EXAC
         16 IN. EXAC
20 IN. EXAC
AC5
AC6
ALM
         AVERAGE CAILY MCVEMENT
A CMA PO
         AVERAGE CALLY MOVEMENT PREPARED BY AIRPORT OPERATOR
ACMATA
         AVERAGE EATLY MOVEMENT PREPARED BY ATA
         AVERAGE CALLY MOVEMENT PREPARED BY FAA
AVERAGE CALLY MOVEMENT SUGGESTED FOR PAVEMENT DESIGN
ACMEAS
ACMSUG
         FAA EASTERN REGION
ALA
AEU
         FAA EURCPEAN REGION
         AGGREGATE BASE COURSE, P-206 TO P-214, P-217
AGBS
         FAA GREAT LAKES REGION
ANNUAL INTEREST RATE OF BOND
AGL
AIRA
         AIRCRAFT LEAD FACTER
ALF
AMC
         ANNUAL MAINTENANCE COST. $/S.Y.
AND
         EQUIVALENT LOAD REPETITIONS OF THE TYPE OF AIRCRAFT - DEFLECTION
         ANTICIPATED SERVICE LIFE IN LUAD REPETITIONS - DEFLECTION CRITERIA
ANDA
ANE
         FAA FEW ENGLAND REGION
ANS
         EQUIVALENT LCAD REPOTITIONS OF ONE TYPE OF AIRCRAFT - STRESS CRITERIA
ANN
         FAA NORTHEEST REGION
         TRANSVERSE DIRECTION PROBABILITY DISTRIBUTION OF WHEEL LCAD
APX
APY
         LONGITUEINAL DIRECTION PROBABILITY DISTRIBUTION OF LANDING IMPACT
ARCO
         AMNUAL RATE OF CASH DISCOUNT
         MEAN VALUE MINUS ONE STANDARD DEVIATION OF A GROUP OF E-VALUE
AREA-E
         FAA ROCKY MOUNTAIN REGION
ARM
         ASPHALT BASE COURSE, P-201
ASPS
         RATE OF ANNUAL ESCALATION OF CONSTRUCTION COST
COST OF ASPHALT CIL, GAR LCAC PER TON
ASCCC
ASCLT
A SCMC
         RATE OF ANNUAL ESCALATION OF MAINTENANCE NEED
         FAA SCUTTERN REGION
ASC
         ASPHALT TREATED BASE. P-215. P-216
ASTB
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### BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

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ASTOP
         ASPHALT TOP COURSE, P-401, P-408
         FAA SOUTHUEST REGION
ASW
        AIRPERT TRAFFIC DISTRIBUTION
AIRPERT TRAFFIC DISTRIBUTION PREPARED BY AIRPORT CPERATOR
ATC
ATDAPO
ATCSUG
        AIRPORT TRAFFIC DISTRIBUTION SUGGESTED FOR PAVEMENT DESIGN
         AIRCRAFT TRAFFIC MOVEMENTS
ATM
ANT
         FAA WESTERN REGION
A1.A2
         CCEFFICIENTS OF TRANSFER FUNCTION (TRANSVERSE TO LONG. DEFLECTION)
         CENTER LINE
CALIB
         THE CALIPRATION IDENTIFICATION NUMBER
CC
         CENCRATE PAVEMENT
CE/AC
         CONCRETE OVERLAY ON EXISTING ASPHALT PAVEMENT
        CONCRETE DVERLAY ON EXISTING CONCRETE PAVEMENT CONCRETE OVERLAY
CC/CC
CC/PAV
         CONCRETE PAVEMENT WITH AGBS
CCA
         ROLLED LEAN CONCRETE BASE PAVEMENT
CCL
CCI
         8 IN. EXPC
CC2
         10 IN. EXPC
CC3
         12 IN. SXPC
CC4
         14 IN. EXPC
CC5
         15 IN. EXPC
         16 IN. EXPC
CC6
CC7
         17 IN. FXPC
        COMPUTED ENGINEERING DATA
RATE OF COMMON LABOR PER HOUR
COST OF COARSE AGGREGATE PER TON
CEC
CLHR
CCAGT
         COST BENEFIT PROGRAM
CCBEN
CCVAR
         COEFFICIENT OF VARIANCE - MATERIAL STRENGTH
         CEMENT TREATED BASE, P-301, P-304
CTB
         CLEFF. OF CONTACT RIGIDITY
DC
        PAVEMENT FUNCTION GOVERNED BY SURFACE DEFLECTION AND AIRCRAFT VIBRATION PAVEMENT FUNCTION GOVERNED BY SURFACE DEFLECTION
DEF/DI
DEF/WZ
DI
         DYNAMIC INCREMENT OF AIRCRAFT VIBRATION AT PAVEMENT-WHEEL INTERFACE
CRY
         CRY BASE
DSM(W)
         CYNAMIC STIFFNESS MCDULUS DEFINED BY WES
DSM(1)
         F(1)/2(1) AT FIRST RISONANCE
01.02
         COFFFICIENTS OF TRANSFER FUNCTION (ELASTIC TO CUMULATIVE DEFORMATION)
         CCEFFICIENT D2 AT INITIAL STAGE OF TRANSVERSE DEFORMATION FOR PFL STUDY
03
E-SUP
         E-VALUE OF PAVEMENT SUPPORT (SUBGRADE OR EXISTING PAVEMENT)
         END PORTION OF RUNWAY AT LANCING ROLL
ENC
        CHEMITING EMPTY WEIGHT OF AIRCRAFT
FPAV
EPW
ESUB
         F-VALUE OF SUBGRADE
         EQUIVALENT SINGLE WHIEL LCAD
ESW
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### BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

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EQUIVALENT SINGLE WHEEL LCAD
ESW:
        MCCULUS OF ELASTICITY OF RESPONSE SYSTEM IN NOT PROGRAM
EVALUE
EVAL
         MODULUS OF ELASTICITY OF RESPONSE SYSTEM IN NOT PROGRAM
EXACOV
         EXISTING ASPHALT OVERLAY
FXAC
         FXISTING ASPHALT LAYER
EXESA
         EXISTING BASE OF ASPHALT PAVEMENT
EXBSC
         FXISTING BASE OF CONCRETE PAVEMENT
EXPCCV
         EXISTING PORTLAND CEMENT CONCRETE OVERLAY
         EXISTING PORTLAND CEMENT CONCRETE LAYER FORCING FUNCTION. DOUBLE AMPLITUDE IN POUNDS
EXPC
F(1)
        INFLUENCE FACTOR OF ALL AIRCRAFT WHEELS
FACTOR
         FORECAST OF AIRCHAFT MOVEMENT DOUBLE VOLUME OF FAM FOR PAVEMENT DESIGN
FAM
FAM*2
FAM/2
         ONE HALF VOLUME OF FAM FOR PAVEMENT DESIGN
FAMAPT
        FORECAST OF AIRCRAFT MOVEMENT PREPARED BY AIRPORT OPERATOR
FAMATA
        FORSCAST OF AIRCRAFT MUVEMENT PREPARED BY AIR TRANSPORT ASSOCIATION
FAMSUG
         FORECAST OF AIRCRAFT MOVEMENT SUGGESTED FOR PAVEMENT DESIGN
         CCEFFICIENT OF FATIGUE STRESS (LUG CYCLE) COST OF FINE AGGREGATE PER TEN
FATIST
FIAGT
FOED
         NATURAL FREQUENCY OF AIRCRAFT GEAR SUPPORT ON PAVEMENT
GELS
         GENERAL EQUILIBRIUM LAYER SYSTEM PROGRAM
H(I)
         FREQUENCY OF FORCING FUNCTION IN HZ AT ITH TEST
         H(1) AT FIRST RESUNANCE, HZ
H(1)
         COST OF HYDRATED LIME, BULK PER TON
HLPT
HP
         HELDING PAD
HST52
         FREQUENCY SCALE OF FREQUENCY RESPONSE PLOT, Z(1)/F(1) VS H(1)
         STRESS AT DESIGN LAYER OF PAVEMENT MODEL FROM GELS INITIAL CONSTRUCTION COST OF TOTAL PAVEMENT, $/S.Y.
HSTFS
ICC
ILS
         INSTRUMENT LANDING SYSTEM
INFI
         SEMI-INFINITE THICKNESS OF SUPPORT LAYER OF PAVEMENT MODEL
INPUT
         SUMMARY OF ALL INPUT PARAMETERS
IWFAT
         CEST OF INDUSTRY WASTE FINE AGGREGATE PER TON
         CENTER STRIP OF RUNWAY OR TAXIWAY
KEEL
         LEFT OF CENTER LINE
LEBM
         COST OF CONSTRUCTION LUMBER PER BOARD MEASURE
LC/PAV
        LCF CVERLAY
         LIME-CEMENT-FLYASH PAVEMENT
LCF
LCF/AC
         LCF CVERLAY ON EXISTING ASPHALT PAVEMENT
LCF/CC
         LCF CVERLAY ON EXISTING CONCRETE PAVEMENT
         LCF-A MIX WITH NATURAL AGGREGATE
LCFA
         LCF-B MIX WITH NATURAL AGGREGATE
LCFB
LCFC
         LCF-C MIX WITH NATURAL AGGRECATE
LCFSA
         LCFS-A MIX WITH INDUSTRY WASTE AGGREGATE
LCFSB
         LCFS-B MIX WITH INDUSTRY WASTE AGGREGATE
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### BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

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LCFS-C MIX WITH INDUSTRY WASTE AGGREGATE
LCFSC
LCFS
         LCF WITH INDUSTRY WASTE AS PAVEMENT AGGREGATE
L IGHTS
         IN PAVEMENT LIGHTING SYSTEM
         LOCATION
LCC
         LANDING ROLL WEIGHT
IRL
LISUE
         LIME TREATED SUBGRADE, P-155
MID .
         MIC PORTION OF RUNNAY OR TAXIMAY
         MAIN LANDING GEAR LCAD OF AIPCRAFT
MLG
         MAX. LANCING WEIGHT OF FIRCRAFT MODILIZATION AND DEMOBILIZATION AND DEMOBILIZATION COST OF MATERIAL PROCESSING FACILITIES
MLRW
MCD
MCD(N)
         MCC FOR NORMAL SIZE OF RUNWAY AND TAXIMAY CONSTRUCTION
         MCC FOR SMALL SIZE OF CONSTRUCTION PROGRAM MAX. TAKE-OFF WEIGHT OF AIRCRAFT
MCD(S)
MTCW
         SUMMARY OF FAM STRESSES AND DEFLECTIONS FROM GELS
MAFPRT
         SUMMARY OF PEL STRESSES AND CEFLECTIONS FROM GELS
MWPPET
MWPRT
         SUMMARY OF PAVEMENT DESIGN THICKNESSES FROM GELS
         MATURITY OF REVENUE BOND, NUMBER OF YEARS
NEL
         NONDESTRUCTIVE TEST PROGRAM
NCT
         NCADESTRUCTIVE TEST
NOT
NCRM
         NERMAL AIRPORT NAVIGATION SIGNS
NCRM
         NCPMAL DRY OPTRATION
NSL?
         EFFECTIVE FUNCTIONAL (SERVICE) LIFE OF PAYAMENT, NUMBER OF YEARS
MINHEEL
         NUMBER OF MEG WHEELS PER AIRCRAFT
         4 IN. EXACOV ON 8 IN. EXPC
CCI
CCZ
         4 IN. SXACOV ON 16 IN. EXPC
         4 IN. EXACEV ON 12 IN. EXPC
UC3
CC4
         & IN. EXACOV CN 10 IN. EXPC
         6 IN. EX ACOV ON 12 IN. EXPC
OC5
CC6
         6 IN. EXPCOV ON 10 IN. EXPC
CC7
          IN. EXPOJV UN 12 IN. EXPO
         OPERATIONAL EMPTY WEIGHT OF AIRCRAFT
DEW
         OVERSTRESS FACTOR FOR KEEL OR OTHER UNCOFINED AREA OVERSTRESS FACTOR FOR SIDES
CVSFKL
CVSFSD
PAV
         EXISTING PAVEMENT
PEVDES
         PAVEMENT DESIGN PROGRAM
PCBT
         COST OF PORTLAND CEMENT, BULK PER TON
         PORTLAND CEMENT CONCRETE, P-501
PCC
         REINFORCED PURTLAND CEMENT CONCRETE, P-501, P-610
PCCR
         PRESENT CASH VALUE OF TOTAL PAVEMENT BURING SERVICE LIFE, $/S.Y. PRESENT FUNCTIONAL LIFE IN YEARS OF AIRCRAFT MOVEMENT(ANDA/AAND)
PCV
PFL
PFLPAV
         EXISTING PAVEMENT FOR PFL ANALYSIS
PFLPAV
         EXISTING PAVEMENT
PLF
         BCARCING FACTOR
PCZBT
         COST OF POZZOLAN OR FLYASH, BULK PER TON
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PROMOTE STATE

### BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

### DICTIONARIES

PRDICT SUMMARY OF ALL DICTIONARIES PSI TIRE PRESSURE RIGHT OF CENTER LINE RACIUS OF CONTACT AREA OF AIRCRAFT MLG WHELL DISTANCE RANGE OF AIRCRAFT (SPORT, MEDIUM, LONG) RACIUS RANGE RGF RANGE FACTOR FLC ROLLED LEAN CONCRETE RAMP VEIGHT OF AIRCRAFT RPWT RSHL B COST OF REINFORCING STEEL (WIRE MESH) PER POUND Rh RUNWAY SCFC SIDE FACTOR FOR UNIFORM PAVEMENT CROSS-SECTION CESIGN FUNCTIONAL (SERVICE) LIFE IN YEARS COST OF SELECTED FILL SAND PER TON SERVYR SFST SIPE STRIPS OF RUNWAY OR TAXIWAY SILF HCRIZONTAL STRESS IN PAVEMENT COMPONENT HCRIZONTAL TENSILE STRESS IN PAVEMENT COMPONENT SIGMA SIGMAT SLEHR RATE OF SKILLED EQUIPMENT OPERATOR PER HOUR SELECTED SUB-BASE, P-154
PAVEMENT FUNCTION GOVERNED BY WORKING STRESS AND MAINTENANCE NEEDS SSBS STR/MT STRESS CONVERSION FACTOR E-VALUE TO TENSILE STRESS SUB SUBGRADE SUPPORT SUMZ STATIC SURFACE CEFLECTION AS COMPUTED BY NOT PROGRAM TOUCH DOWN AREA TC TEN TOUCH-DON'S WEIGHT TM TERMINAL TCW TAKE-OFF WEIGHT Th TAXIWAY ULSTR ULTIMATE SAFE TENSILE STRESS VELOCITY OF AIRCRAFT EQUIVALENT TO FULL STATIC LOAD WITHOUT WING LIFT VEL VISUAL VISUAL LANCING SYSTEM WAPCV WEIGHTED AVERAGE OF PRESENT CASH VALUE WET BASE, OCCASIONALLY PONDED WEIGHT OF MIG PER TIRE WET WGT SAFE WORKING TENSILE STRESS WESTR WZ SURFACE DEFLECTION OF PAVEMENT WZERO WZ AT X = O, Y = O DISTANCE BETWEEN CUTERMOST WHEELS XIVAX XNZ TRANSVERSE WHEEL SPACING OF THE LANDING GEAR XTW CRESS TAXIWAY DYNAMIC RESPONSE OF SUB OR PAV IN INCH AT ITH TEST DYNAMIC PESPONSE AT CUT-CFF HIGH FREQUENCY TEST ZIII Z(N) SURFACE DEFLECTION OF PAVEMENT MODEL FROM GELS ZCEF >5.CO ANDA/AAND>5.

KEGICNAL COST VALUES. REGICNAL COST VALUES FACILITY FACILITY FACILITY FACILITY FACILITY TYPE BANEWICTH CCCE1 CCDE2 RW Th HP 10 ñh TW HP VEL Rh TW HP AIRCRAFT CCCF WCTM MLRW CEW RANGE AIRCRAFT TAKE-UFF WEIGHTS 104 AIRCRAFT TAKE-CFF WEIGHTS TCW FINANCE AIFC AF.CO ASCCC ASCMC NBL NSLP FCRECAST AEM ATD PFLCI WEIGHT PESIGN AIRCRAFT OVSFSD CLASS CCDE FVSFAL STRESS FATIST COVAR Al PCISSON LAYER CCDE EVALUE. MCD(S) MCD(N) COAGT HLBT LAYER PCCT FIAGT ASCLT POZBT SFST PAVEMENT CCCE THICKNESS EVALUE PCISSON LAYER ITERATE PAVEMENT LAYER HMIN HPAX HSTEP NEW PAVEMENT ESUB GRIC EVALUES EVERLAY PAVEMENT EPAV GRID EVALUES PAVEMENT NUMBER KEEL SIDE FELFAV CCLE LAYER THICK IESS EVALUE PELPAV ESUS CRID EVALUES PFLFAV CLASS LAYER FOR STRIMT CLASS PFLPAV FCR ANLIANS PAVEMENT PFLPAV FOR AND/ANS CLASS FAVEMENT PFLPAV CLASS LAYER FOR STR/MT FACILITY AND STATION IDENTIFICATIONS STATISTICALLY PROCESSED NOT GROUP DATA CPERATIONAL AIRCRAFT WEIGHTS AVERAGE DAILY MOVEMENTS, SUGGESTED AIRPORT TRAFFIC DISTRIBUTION, SUGGESTED ACM ACKSUG ATD 4 TC SUG REGICNAL COST VALUES

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USFR
          H. TOMITA
JCECCDE
          BTV-ANE
          BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION
JCB
RUN.
          NET 3
RUN
          PFL
RUN
          PAVOES
PEINT
          CICTICNARY
          INPUT
PKINT
FACILITY AND STATION IDENTIFICATIONS
FACILITY CCCE
                    STA-FRUM STA-TO
          RW 15-33 000.0
RW 1-19 016.0
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FACILITY STA-FRCM STA-TO
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CPERATIONAL AIRCRAFT WEIGHTS
                    FANGE
AIRCRAFT CCDE
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PRINT

INPUT

CCE (8707)

B 720

MEDIUM

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7
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8
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9
           LC5(8737)
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OCX-200
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15
            8757
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            A20084
           SCHOOKS
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ACM
           ACMSUG
                       AVERAGE DAILY MOVEMENTS, SUGGESTED
           NUMBER CF
                       AIRCRAFT MOVEMENTS - PLAK MONTH
AIRCRAFT
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REGICNAL COST VALUES
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PEL PRESENT FUNCTIONAL	LIFE
FACILITY SERVYR BANDWIDTH	
1 1 2	FAMSUG
2 1 2	FAMSUG
3 i i	FAMSUG
4 1 1	FAMSUG
5 i i	FAMSUG
6 1 1	FAMSUG
7 i i	FAMSUG
8 1 1	FAMSUG
9 i i	FAMSUG
10 1 1	FAMSUG
ii i i	FAMSUG
12 1 1	FAMSUG
**	1 211300
PAVEES PAVEMENT DESIGN	
FACILITY SERVYR EANDWIDTH	FORECAST
1 5 2	FAMSUG
1 20 2	FAMSUG
	FAMSUG
2 20 2	FAMSUG
3 5 1)	FAMSUG
5 20 1 4 5 1	FAMSUS
	FAMSUG
4 20 1	FAMSUG
5 5 1 5 2C 1	FAMSUG
5 20 1	FAMSUG
6 5 1	FAMSUG
6 20 1	FAMSUG
7 5 1	FAMSUG
7 20 1	FAMSUG
8 5 1	FAMSUG
8 20 1	FAMSUG
9 5 1	FAMSUG
9 20 1	FAMSUG
10 5 1	FA'ASUG .
10 20 1	FAMSUG
11 5 1	FAMSUG
11 2C 1	FAMSUG
12 5 1	FAMSUG
12 20 1	FAMSUG
13 20 2	FAMSUG
1.4 20 1	FAMSUG
15 2C 1	FAMSUG
16 20 1	FAMSUG

0.00

NAI C. YANG, ENGINEERING CONSULTANT NDT/3 1

RURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

GEFAULT SYSTEM FOR PFL

PFLPAV	CODE	LAYER	THICKNES	S EVALUE	POISSON
1	AC1	EXAC	3.0	140000.	0.24
		EXBSA	6.0	5000C.	0.27
		SUB	INFI	****	
2	ACZ	EXAC	6.0	140000.	0.24
		EXESA	6.0	50000.	0.27
		SUB	INFI	****	
3	AC3	EXAC	9.0	140000.	0.24
		EXBSA	6.0	5000C.	0.27
		SUB	INFI	****	
4	AC4	EXAC	12.0	140000.	0.24
		TXBSA	6.0	50000.	0.27
		SUB	INFI	++++	
5	AC5	EXAC	16.0	140000.	0.24
		EXBSA	6.0	50000.	C. 27
		SUB	INFI	****	
6	AC6	EXAC	20.0	140000.	0.24
		EXBSA	6.0	50000.	0.27
		SUB	INFI	****	
7	CC1	EXPC	8.0	3000000.	0.13
		EXBSC	8.0	30000.	0.29
		SUB	INFI	++++	
8	CC2	EXPC	10.0	3000000.	0.13
		EXBSC	8.0	30000.	0.29
		SUB	INFI	****	
5	CC3	EXPC	12.0	3000000.	0.13
		EXBSC	8.0	30000.	0.29
		SUR	INFI	++++	
10	CC4	EXPC	14.0	30000000	0.13
		EXBSC	8.0	30000.	0.29
		SUB	INFI	****	
11	CCS	EXPC	15.0	30000000.	0.13
		EXBSC	8.0	30000.	0.29
		SUB	INFI	++++	

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DEFAULT SYSTEM FOR PFL

PELPAV	CODE	LAYER	THICKNESS	EVALUE	POISSON
12	CCE	EXPC EXBSC SUB	16.0 6.0 INFI	300000. 30000.	0.13 0.29
13	CC7	EXPC EXBSC SUB	17.0 8.0 INFI	3000000.	0.13
14	OC 1	EXACOV EXPC EXBSC SUB	4.0 8.0 8.0 INFI	183000. 3000000. 30000.	0.23 0.13 0.29
15	002	EXACEV EX PC EX B SC SUB	4.0 10.0 8.0 INFI	180000. 30000. 30000. ++++	0.23 0.13 0.29
16	CC 3	EXACOV EXPC EXBSC SUB	4.0 12.0 8.0 INFI	186220. 320020. 30000.	0.23 0.13 0.29
17	CC 4	EXACCV EXPC EXBSC SUB	6.0 10.0 8.0 TNF1	180000. 300000. 30000.	0.23 0.13 0.29
18	CC 5	EXACEV EXPC EXBSC SUB	6.0 12.0 8.0 INFI	180000. 300000. 30000.	0.23 0.13 0.29
15	CCo	EXPCOV EXACOV EXPC EXBSC SUB	6.0 1.9 1C.3 8.0 INFI	4500000. 180000. 3000000. 30000.	0.12 0.23 0.13 0.29
20	CC7	EXPCCV EXACOV EXPC FXRSC SUB	6.0 1.0 12.0 8.0	4500000. 180000. 3000000. 20000.	0.12 3.23 0.13 0.29

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ND 1/3

			Z	NOT INVENTORY FILE	JRY FILE				
FACILITY	ccor	STA-FROM	STA-TO	DRAIMAGE AT TEST	SP AV	PAA	ESUB	ESUB	PFLPAV
	Rh 15-33	0.0	3.00	NCRM	179545.	126110.	3 42 83.	23570.	13 CC7
		69.00	76.50	NCAM	27745.	19696.	13983.	8388.	1 AC1 13 CC7
2	Rh 1-19	16.00	52.00	NCRM	32267.	22872.	17732.	10639.	1 AC1
m	Th A	26.00	51.00	NCRM	29191.	23480.	15015.	6006	1 AC1
4	GATELAPAN	26.03	35.33	NCKM	21726.	15641.	9903.	5942.	1 AC1
ď	A DT SWTX	0.0	0.0	NCRM	22234.	15992.	10239.	6143.	1 AC1
9	11 8	0.0	6.00	NCRM	32320.	22928.	17788.	10673.	1 AC1
1	0 4	0.0	22.99	NFRM	343 50.	2511.5.	19810.	11886.	1 AC1
œ	APRON GA	6.00	15.00	NCRM	52594.	37313.	7899.	4739.	14 001
•	14.0	0.0	25.00	NCRM	31625.	22208.	17037.	10222.	1 AC1
10	1 k E	1.00	00.9	NCRM	26376.	18699.	12896.	7738.	1 AC1
11	T.	1.00	49.33	NCRW	36029.	26245.	21310.	12786.	1 AC1
12	APRN VANG	46.00	63.00	NCRM	24670.	17331.	11656.	.4669	1 AC1
13	Rh1-19LXT	0.0	16.00	NCAM	10667.	.0049	10667.	94000	D SUB
14	Th NEW	0.0	37.03	NCRM	10395.	6237.	10395.	6237.	ens o
15	XTK-GA NU	0.0	10.00	NCRM	10381.	6229.	10381.	6229.	O SUB
16	Th - RW19	0.0	18.00	NCRM	10327.	6196.	10327.	6196.	O SUB

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FAMSUG   10-30-10	### ### ### ### ### #### #############							A TM .	AIM, AIRCRAFT TRAFFIC MOVE JENTS	AFFIC MOVE	STACKTS					
FAMSUG   10-   31   70   10-	FAMSUG   Second   FAMSUG   Second   S	1	CILITY	SERVYR	FSRECAST	STATI FRUM	20	6747 F27	0C1C/3L 0CX-20C	5C13/1.	L1 111 8767-200	DC8(H7)7) A30044	0720 CONCCRDE	8727-201	8727-100	009(8737)
FAMSUG   So.	FAMSUG   50   53.   10.45   54.5	å	15-33	1	FANSUG		(0)	T.C. C. T.		0.0	6.3		3.0	0.6	0.0	
FAMSUG 50 55. TOATION   1.00	1 FAMSUG 55.— 75. TOATO.  1 FAMSUG 55.— 75. TOATO.  2 1 FAMSUG 55.— 75. TOATO.  3 1 FAMSUG 55.— 75. TOATO.  4 1 FAMSUG 55.— 75. TOATO.  5 1 FAMSUG 55.— 75. TOATO.  5 1 FAMSUG 55.— 75. TOATO.  6 1 FAMSUG 55.— 75. TOATO.  7 FAMSUG 55.— 75. TOATO.  8 FAMS							4.595E	m	0.0	000		. e.	0.	6.0	
FAMSUG 30 52.   TOATOLO   0.00	FAMSUG 50 52. TOATON   0.0							3.834.	m	0.0	5.		0.0		,	
FAMSUG 50 93.   13480.0   20.0	FAMSUG 50 53. TOAKSUG 50 70. TOAKS							: DA:0.3		0.0			0.0	•		
FAMSUG 53   R.   TAMSUG 53   R.   R.   TAMSUG 53   R.   TAMSUG	FAMSUG 55 - 70   TOAIGN   TO	4	15-13	-	FAMSIIG		53	2.683E O	m	200	. c.		0.0	0.0	0.0	
FAMSUG 53 78-1741-0	FAMSUG 55 76. TOWING.   1.00   0.0   0							5.365E	3	0.0	6.0			,		
FAMSUG 55 76. TOAIRCA 50.0   0.00	FAMSUG 55 76- TOWNED							LRM: C.O		0.0	0.0		0.0	J•3	6.0	
FAMSUG 53 76. T7347-0	FAMSUG 55 78. Y7A:1.0							3.832F		0.0	0.0	0.0	0.0		C	0-0
FAMSUG 53 76-174-1-0	15-33 1 FAMSUG 55 76. 173.1°C												0.0			
	1.532E (3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	2	. 5-33		FAMSIIG		78.	0.71.01		2.0	.;		0.0	3.6	0.0	
	FAMSUG 16 52- TOATO-0   TOATO-0							1.5335	3	0.0	0.0		0.0			
1 FANSUG 16.— 52. TOWNEY 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	1 FAMSUG 16 52. TOWING 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							LR 4:1.0		0.0	0.0		0.0	0.5	0.0	
1 FAMSUG 16 52. TOWING 10.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	1 FAMSUG 16 52. TOWING 0.0 0.0 0.0 0.0 1.0957 01  1 FAMSUG 16 52. TOWING 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							1.6327	9	0.0	0.0		2.0			
1.15CE 63 0.7 0.0 0.7 0.0 1.350E  1. FAMSUG 16 52. TOATROL  1. FAMSUG 16 52. TOATROL  1. FAMSUG 16 51. TOATROL  2.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.15CE 03 0.7 0.0 0.0 0.7 0.0 0.0 0.0 0.0 0.0 0.0							: 0x:0:		0.0	6.0		0.0	0.0	0.0	
1 FAMSUG 16.— 52. TOWNELL UNITY OF 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	1 FAMSUG 16 52, TOAMBLE 00.0 0.0 0.0 7.303E 00  T. 665E 02 0.0 0.0 7.300E 00  T. 665E 02 0.0 0.0 0.0 7.300E 00  T. 665E 02 0.0 0.0 0.0 7.300E 00  T. 665E 02 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0							1.15CE	9	0.0	0.0	0.0	0.0			
T-665E (2 0.0 0.0 7.3 0.0 0.0 7.3 0.0 0.0 7.3 0.0 0.0 7.3 0.0 0.0 7.3 0.0 0.0 7.3 0.0 0.0 0.0 7.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	T-665E 02 0.0 0.0 7.300E 00.0	å	1-19		OF SWYS	16	3	CadenCI		0.0	3.0		2.0	0.5	0.0	
Fabruary   LRWitten   1.00	1 Finsus 15 35. Towice 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							7.665E	2	0.0	6.5		0.0			
1 Femsus 16 51. Turking 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	7.6655 32 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							LRM:0.5		0.0	6.0	200	0.0	٠.٠	0.0	
1DARTING 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	1 FrhSuc 16 51- Tukice 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							7.6655	25	0.0	C.C.	0.0			•	
1 FAMSUG 16 51. TUMIDATO 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	1. Febbut 16 51. Tunion 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							1D4:0.0	0.0	0.0		0.0	0.0			0.0
1 FAMSUG 16.— 51. TOWING 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	1 Firsuc 16 51. Tourse C 0.0 0.0 0.0 2.927F C1 3.066E 03 0.0 0.0 0.0 2.927F C1 3.066E 03 0.0 0.0 0.0 2.97F C1 3.066E 03 0.0 0.0 0.0 2.97F C1 3.066E 03 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 0.0 1.415.0 0.0 0.0 0.0 0.0 0.0							0.0	0.0		0.0	6.5	?:			
3.06E 03 0.0 0.0 2.0 7.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	3.56E 53 9.0 0.0 5.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7		•		Fahisus	16		154:0-0	0.0	9.0	0.0		1.0	0.0	0.0	
	1 F/4Suc 25 35- Townson  1 F/4Suc 25 35 35 35 35 35 35 35								(11)	0.0	5.0		0.0			
1 FLMSUG 25 35. TGMTOR 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	3.0662 03.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.							LKASO.0	0.0	0.0	0.0		0.0	ر•ر	G.5	
104:0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1) FfMSUG 25 35. TGM:00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0							3.0662 (		0.0		0.0	5.0		,	•
1 FINSUG 25 35. TGARGE 0.0 C.0 0.0 2.1908 C1 2.0 C.0 4.051E 2.2958 G2 0.0 C.0 4.051E 7.3 C.0 0.0 C.0 4.051E 7.3 C.0 C.0 0.0 4.051E 7.3 C.0 C.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1 FIMSUR 25 35. TOMITOR U.D O.D C.D O.D C.D C.D C.D C.D C.D C.D C.D C.D C.D C							TOMES .O	0.0	0.0	5.7	0.0	0.0	0.0		0.5
1 FINSUG 25 35. TGA:C.C. 0.0 C.C. 0.0 2.0 2.1935 CL 2.0 C.C. 3.0 4.051E. 2.2942 A2	1 F/MSUG 25 35. TOM:0.0 0.0 0.0 0.0 2.1903 01. 2.295 02. 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0							·•••	0.0	0.0	•	0.0	0.0			
2.2995 72 3.57 6.0 6.1 2.1975 0.1 6.0 6.0 6.0 6.0515 7.0 6.0 7.0 6.0515 7.0 6.0 7.0 6.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7	2.2992 97 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.		111/2081		FIMSUC	75.1		Towns of	r. 0	0.0	0.0	0	0.0	0.3	0.0	
2.2952 03 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2,295E 63 9,0 0,0 7,3 2,195E 01 2,295E 63 9,0 0,0 0,0 0,0 1,1 1,2 7,0 7,1 0,0 0,0 0,0 0,0	,						256		6.0		*	3.0			
2.295E 63 9.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	2,295E 63 9,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1							LZ.WIP.F.		0.0	6.0	10	0.0		0.0	
	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0							2.295		•	C. C.	0.0				
	0.00							TOWIT .			• .		D			

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OPWGT 1	REGICN	
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CASULTA	AIRPURT	175
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NAI C. YANG, ENGINEERING CONSULTANT	PURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION	OPERATIONAL AIRCRAFT WEIGHTS
YANG.	STOR	CNAL
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OPERATION	OPERATIONAL AIRCRAFT WEIGHTS	T KEIGHTS				
AIRCRAFT	3373	KANGE	LCAD FACTOR	101	L R E	101
-	8747	Ling	нІсн	.000519	507852.	761777.
2	DC10/30	LCNG	HIGH	515000.	383853.	5 75 340.
117	EC19/10	LCNG	нІсн	390000	337538.	506308.
*	11011	LCNG	пси	390000	334750.	502125.
. 10	CC3(87C7)	LONG	MEDIUM	280.000	220117.	333176.
ę	e720	WECTON	н16н	220 000.	172878.	259317
1	8727-203	MEDIUM	MEDIUM	157000.	135403.	203130.
	8727-1CD	MEDIUM	MEDIUM	135000.	121939.	182364.
•	CC 5 ( B 737)	SHCRI	MEDIUM	85000.	77000.	115500.
10	F27	SHORT	MEDIUM	40000	36000.	54000.
11	EC x-200	TONC	нтен	250000	290659	435989
12	B757	MEDIUM	н16н	218000.	191720.	287580.
13	8767-200	MEDIUM	нІСн	270000.	247336.	371005.
14	430034	MEDIUM	нІСН	333000.	285919.	428878.
15	CONCOLOR	XLCMG	нІСН	355000.	232600.	348900

BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENSLAND REGION

### EQUIVALENT SINGLE TYPE AIRCRAFT OPERATION

	AANS	3 AAN S 11 E 1 E 1 E 1 E 1 E 1 E 1 E 1 E 1 E	
	104 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3. 9E-02 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	
	LRX 0000 0000 0000 0000 0000 0000 0000 0	LAN 000 000 000 000 000 000 000 000 000 0	
15-33	A45 TCW 501 0.0 501 0.0 501 0.0 501 2.3 502 0.0 502 0.0 503 0.0 504 0.0 505 0.0 506 0.0 507 0.0 508 0.0 509 0.0 509 0.0	ANS TOW TOW 1 0.0 0 0 0 0	
3	7.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4	3.5 Manual 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
FACILITY:	CRITERIA LRW 2.7E-02 8.0E-02 8.0E-01 3.16E-01 1.49E-01 1.90E-03 1.90E-03 2.16E-01 1.90E-03 2.50E-03 2.50E-03 8.0E-02 8.16E-03 8.0E-03 8.16E-03 8.0E-03	CRITERIA 2.7E-02 8.00-02 8.00-02 3.160-01 1.46-03 1.46	
	5.18-52 5.18-52 5.18-52 5.28-51 1.48-61 1.4	STRRS 9.1E-02 4.651-01 3.881-01 1.651-01 1.651-01 3.761-03 3.761-03 5.761-03 5.761-03 5.761-03 5.761-03 5.761-03 5.761-03 5.761-03 5.761-03 5.761-03	
2/AC 1	AAND	4.0E 01 AAND 3.4E 01	
CLASS: YEAR:	10% 0.0 0.0 0.0 7.96-03 0.0 0.0 0.0 0.0	8 3000000000000000000000000000000000000	
· Las	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	7.1E 00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
16HT: 170050. RECAST: FAMSUG	A PARIS OF CO. O.	Z.3E 01  KFEL  AND  J.0  C.0  C.0  C.0  C.0  C.0  C.0  C.0	
ME IGHT: FCRECAST		SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	
	CC CKITC CKI	36357663535363	
T: 8727-2	LEFECTION CRITTERIA 2.2F JULY CO 3-2 2.55 NC 1-2E CO 3-2 2.95 NC 1-2E CO 3-2 2.95 NC 1-2E CO 3-2 1.95 NC 1-2E CO 1-2 4.6F-01 3.09-01 1-2 4.7F-C2 2.49-02 2-7 4.6F-01 3.09-01 1-2 6.5E-01 3.99-01 1-2 6.5E-01 3.99-01 1-2 6.5E-01 6.03-01 2-0 1.7E NO 1-2E CO 2-8 2.1E NC 6.7E-01 2-0	20. TO 52. LEFLECTICN 2.27 UO 1.4 2.52 UO 1.4 2.53 UO 1.4 2.53 UO 1.4 2.53 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 2.55 UO 1.4 3.00 UO 3.00 6.55 UO 3.00 8.55 UO 3.00 8.55 UO 1.5 8.55 UO 3.00 8.55 UO	
EG. AIRCRAFT: 8727-20C BANCWIDTH: LIGHIS/ILS STATIONS C TC 20		STATICNS 3 B747 B747 B710/30 DC10/30 DC10/10 LT011 LCR(B707) B727 B727 DCX-200 B757 B757 CCNCORCE	

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BURLINGTON INTERNATIONAL AIRPORT - FAM NEW ENGLAND REGION

### SUMMARY OF PRESENT FUNCTIONAL LIFE

AS MEASURED BY PREGRESSIVE DETERIONATION OF EXISTING PAVEMENT SURFACE OUT TO AUTICIPATED AIRCRAFT MOVEMENTS

DI =0.12G SMCOTH PAVEMENT SURFACE DI =0.18G OPERATIONAL SURFACE DI =0.25G UPPER LIMIT OF ROUGHNESS TOLERANCE

					****	-		
.30G	>5.03 >5.03 >5.03	55.00	0.00	0.00	9.13	0.00	0.00	0.00
87 STR • 183	>5.00 >5.00 >5.00 >5.00	0.00	63.0	0.00	0.69	0.00	3.47	00.00
-306 NORM	5.00	4.03 5.00	25.00	0.00	5.00	0.00	2.33	0.72 0.08 0.00 0.03
RS (1977 TRAFFIC) GOVERNED BY STR/MI -25G IMPACT -18G -30G -18G -39 WET NORM NGT WE	>5.00 >5.00 >5.00 >5.00 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03 >5.03	>5.00 4.03 0.00 0.00 >5.00 >5.00 >5.00 >5.00 >5.00	00.0 60.0 00.8< 00.8<	0.02 0.00 0.00 0.03	>5.00 >5.00 0.65 0.00 >5.00 >5.00 0.89 0.10	0.04 0.00 0.00 0.00 >5.00 >5.00 0.02 0.00	>5.00 2.33 0.00 0.00	0.72
TA TRA				h				
\$ (197	>5.00 >5.00 >5.00 >5.00	>5.00	>5.00	>5.00	>5.00	>5.00	>5.00	>5.00
N YEAR	>5.00 >5.00 >5.00	3.78	25.00	>5.00	>5.00	>5.00	>5.00	>5.00
PFL IN YEARS (1977 TRAFFIC) BY DEF/DI *126 *186 *256 IMPACT *1 WET WET WET	1.19	5.00	5.00	5.00	5.00	5.00	5.00	25.00
- 256 NOKM	500000000000000000000000000000000000000	5.00	5.00	5.00	5.00	5.00	5.00	25.00
GOVERNED •186 •256 NORM NORM	5.00	6.31 >5.00 >5.00 0.19 3.78 >5.00 5.00 >5.00 >5.00 >5.00 >5.00 >5.00 3.92 >5.00 >5.00 2.39 >5.00 >5.00	5.00 >	5.00	5.00	5.00	5.00	2.00
CI .12G NCRM	>5.c0 >5.c0 >5.00 >5.00 >5.00 >5.00 >5.00 2.16 >5.03 >5.00 1.19 >5.03 >5.00 2.50 >5.00 >5.00 1.39 >5.00 >5.00 1.51 >5.00 >5.00 0.84 >5.00 >5.00	0.31 25.00 2	>5.00 >5.00 >5.00 >5.00 >5.00 >5.00	>5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00	>5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00	>5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00	>5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00 >5.00	>5.00 >5.00 >5.00 >5.00 >5.00 >5.00
PFLPAV	13 CC7 2 AC2 2 AC2 2 AC2	AC1	AC1	ACI	AC1 AC1	0C1 AC1	AC1 AC1	AC1
4	2222	1-12 -	-			7 -		-
SSUB WET	20570. 8495. 8495. 8495.	8388. 1 AC1 18376. 13 CC7 10639. 1 AC1	9039. 1 AC1	5942. 1 ACI 6143. 1 ACI	13673. 1 ACI 11886. 1 ACI	4739. 14 OC1 10222. 1 AC1	7738. 1 AC1 12786. 1 AC1	6994. 1 ACI
ND1/3 ESUB NGRM	34283. 14158. 14158.	13586.	15015.	9903.	17783.	7899. 17037.	12896.	11656.
VEL	145. 145. 145.	145.	55.	% % •	3 3	56.	3 8	26.
TC	36.	77.	51.	35.	9.	15.	. 6	63.
STAT ION FRCM-TC	1 1 0 2		16 51.	26 35.	0 22.	6 15.	1 6.	48
FACILITY	RW 15-33 RW 15-33 RW 15-33 RW 15-33		4 4 4	CATE/AFAN	4 4 5 0 4 C 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AFREN GA	11	AFRN VANG 48 63.

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BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

FACILITY SERVYR FOR ECAST FROM-TQ RW 15-33 5 FAMSUG 30 30. RW 15-33 5 FAMSUG 53 78. RW 15-33 20 FAMSUG 30 53.
<b>*</b>

NAI C. YANG, ENGINEERING CONSULTANT PURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

<b>EURLINGT</b>	CN INTERNA	TIONAL AIR	PURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION	H ENGLAND	REGION	
CFERATION	LFERATIONAL DIRCEAFT WEIGHTS	T WE IGHTS				
ATRCRAFT	2393	RANGE	LUAD FACTOR	16.	LRW	<b>ACT</b>
-	8747	LONG	HIGH	615000.	507852.	701777.
14	CC13/39	1.0%	нІСН	515500	343495.	575340.
<b>M</b> 1	£51:1/1¢	DNC	нІсн	393000	337538.	506308.
•	11511	5807	нІСН	390006	33475r.	5021256
2	CC 8 ( 5707 )	LCNG	MEDIUM	280000	220117	333176.
9	8723	MULTION	нІсн	220000	172378.	259317.
1	3727-200	MEDIUM	MELIUM	157000.	139400.	299100.
8	6727-133	MUION	MEDIUM	135000.	121999.	182864.
	209187373	SHURT	MEDIUM	35070	77963	115500.
10	F2.7	SHCRT	HEDION.	+0C30+	36000.	54000
11	CCX-200	SNCT	нІсн	350036.	290659.	435989.
12	9757	MEDIUM	HIGH	218200.	191720.	287580.
13	B767-203	MEE IUM	нІСН	270000.	247336.	371005.
14	A3C384	MUIOEM	нІбн	333000.	285919.	428378.
15	CONCORDE	XL CNG	нІСН	355000.	23260.0.	348900

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BURLINGTON INTERNATIONAL AIRPORT - FAM VEW ENGLAND REGION

### EGLIVALENT SINGLE TYPE AIRCRAFT CPERATION

	N N N N N N N N N N N N N N N N N N N	AANS AANS	7.4E 02
	TDW 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	00 00 00	05 0.0
	02 1.0 E 00 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	C2 1.16 C C C C C C C C C C C C C C C C C C C	02 1.1E
RW 15-33	ANS 4-16 4-16 1-86 1-96 1-96 1-96 1-16 1	70W 4.15 00 0.0 7.8E 00 0.0 7.8E 00 0.0 1.9E 01 0.0 1.1E-01 0.0 1.8E 01 5.8E 2.6E 00 0.0 3.4E-01 0.0 1.5E 01 0.0 3.4E-01 0.0 3.4E-01 0.0 3.7E 00 0.0	6.3
FACILITY: RW	NITERIA 18,55-02 10,05-03 10,0	RITERIA 3.55-02 5.76-02 5.76-02 1.12-01 1.12-01 1.12-02 2.12-03 2.12-03 2.12-03 1.02-03 1.02-03 1.56-03 1.56-03 2.66-02	
	278 & SS 200	STR ISS C TOW IS	03
1: 1/LCF	00 00 01	AAND AAND	1.5E
CLASS:	20.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	# Foresseriosses	0.0
1700C0. LBS : FAMSUG FL	18 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	00 00 00 00 00 00 00 00 00 00 00 00 00	03 2.4≣ 02
CAST	00000000000000000000000000000000000000	A A A A A A A A A A A A A A A A A A A	1.3€
F0C4	RITER A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3. LCCATION: ICN CRITERIA LN LN LN LD LD LD LD LD LD LD LD LD LD LD LD LD	
EG. AIRCKAFT: B727-203 BANGWICTM: LIGHTS/ILS STATIONS C. TO 30.	505000000000000000000000000000000000000	36. TO 53. LCCAT  CEFLECTION CRITERIA  TUM  2.60 UD 2.7E 00 4.60  2.7E 00 2.1E 00 3.9  2.7E 00 2.1E 00 3.9  1.8E 00 1.8E 00 3.2  2.2E 00 1.8E 00 3.2  2.3E 00 1.7E 00 2.7  2.3E 00 1.7E 00 2.7  2.5E 00 1.7E 00 2.7	
EQ. AIRCKA HANGWICTH: STATIONS	8747 0C10/30 0C10/16 L1011 672 C8 (4707) 6727-20 6727-20 6727-10 509(6737) 627-20 6757-10 6757	8747 6C13/30 CC13/10 L1011 0C8 (37C7) 6720 8727-235 8727-235 8727-235 8727-235 8727-235 8727-235 8727-235 8727-235 8727-235 8757 CCNCGREE	
	82		

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CEDILCF

SUMMARY OF AIRCRAFT FORECAST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS MEICHT: 170000, LBS THICKNESS EVALUE PCISSON UNIT-PRICE 0.63 0.52 0.48 0.35 BURLINGTON INTERNATICHAL AIRPORT - FAA NEW ENGLAND REGION 200,00. 0.23 1100,00. 0.17 600,00. 0.19 40,000. 0.20 40,000. 0.30 ECUIVALENT AIRCRAFT OPERATION: 9727-200 6.0 6.0 1NF1 LAYER ASTCA LCFA LCFB LCFC SUB PAVEMENT MODEL & CCDE 100

NAI C. YANG. ENGINEERING CONSULTANT

SUMMARY OF AIRCRAFT FURECAST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS WEIGHT: 170000. LBS THICKNESS EVALUE PCISSON UNIT-PRICE BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION EQUIVALENT AIRCRAFT OPERATION: 8727-200 LAYER PAVEMENT MODEL: CODE

	F AM *	7.7	6.8	000	0000	99999	1.0
	LAYER FAM/2 F	2.1	2.5	000	0000	4 0 0 7 7 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3.2
	ASBS FAM WET	9.0	0.00	000	0000	2 4 5 8 5 5 5 6 5 6 5 6 5 6 5 6 6 6 6 6 6 6	3.9
	ESS CF FAM*2 NGRM	25.0	3.9	000	0000	4 C C C C C C C C C C C C C C C C C C C	2.1
1.15	THICKNESS CF FAM/2 FAM*2 NORM NORM	3.10	7.7	000	2000	www.a.a.a.a.a.a.a.a.a.a.a.a.a.a.a.a.a.a	1.0
0.23 0.24 0.28 0.34	FAM	1.2	33.1	000	2000	400000000000000000000000000000000000000	1.0
200000. 0 150000. 0 40000. 0	DESIGN SERVICE YEARS	מיטיט	เพพพ		กพพพ	000000000000000000000000000000000000000	n n
2.0 **** 6.3 INFI	DEFINED LIMIT STRESS ASBS	133.0	138.0	204.5	210.2	11118 111223.4 11223.4 11223.4 11223.4 11314.6	144.7
A STOP A SB S A GB S S UB	AND FAM LIMIT DEF/WZ				0.2981 0.37.00 0.2027	0.0642 0.0599 0.1053 0.11363 0.2122 0.2122 0.2383 0.2383	0.1164
4440		1126.	510.	; <b>: :</b> :	มู้เก็บ	9423. 9423. 9423. 3791. 3791. 94. 113. 38.	217.
A C	FOR ESUB NORM				• • • • • • • • • • • • • • • • • • •	7917. 7917. 7917. 3748. 3748. 2748. 109. 109. 125. 56.	149.
	5508 6684	34283-	14158.	34283	14158. 14158. 13580. 20628.	246283 141583 141583 32686 34288 34288 14158 14158 3688	17732.
	רפנ	K K K K K K K K K K K K K K K K K K K		S10C 510C	SIDE SIDE SIDE	SSE STEER STREET	KEEL
	STATION FEUM-10				53 65. 69 77. 77 78.	30 - 30 53 - 52 53 - 52 67 - 77 77 - 77 80 - 78 90 - 53 69 - 69	
	FACILITY	25	7 7 7 7	77.7	RW 15-23 RW 15-23 RW 15-23	**************************************	

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CED:CC

SUMMARY OF AIRCRAFT FORECAST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS LAYER THICKNESS EVALUE PCISSON UNIT-PRICE MEIGHT: 170000. LBS 1.23 BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION 4093303. 0.12 200300. 0.23 20300. 0.31 ++++ 0.34 EQUIVALENT AIRCRAFT CPERATION: 3727-200 P CC C TB S S B S S UB PAVEMENT MODEL: CODE 3

	F AM#2	8.5	6.6	6.6	6.6	6.5	8.3	4.4	6.1	6.1	5.8	5.8	4.3	4.6	8.01	10.9	<b>10.4</b>	10.4	9.1	5.4	6.9	7.0	9.9	9.9	5.3	8.8	2.0
9	FAM/2 WET	7.9	9.3	6.3	8.9	0.6	7.7	4.0	5.6	2.6	5.3	5.3	4.0	8.8	10.2	10.2	8.6	8.6	8.5	4.8	4.9	4.9	6.1	6.1	4.6	8.2	4.3
	FAN	8.2	9.6	9.5	8.5	8.5	8.0	4 . 1	5.8	5.9	5.5	2.6	4.0	9.1	10.5	10.5	10.1	10.1	8.8	5.1	6.7	6.7	6.3	4.9	2.0	8.5	4.7
	FAM*2	7.6	0.6	0.6	8.7	8.7	1.5	4.0	5.1	5.5	4.8	4.8	4.0	8.6	10.0	10.0	9.5	9.6	8.3	4.6	0.9	6.1	2.1	2.1	4.4	7.9	4.0
. 2	FAM/2 FAM#2	7.1	3.5	8.5	8.1	8.1	6.9	4.0	4.5	4.5	4.1	4.1	4.0	7.9	9.3	4.6	8.9	6.0	7.7	4.0	5.5	5.5	5.1	5.2	4.0	7.4	4.0
	FAM	7.4	8.7	8.8	4.8	8.4	7.2	4.0	4.8	6.4	4.5	4.5	4.0	8.3	7.6	1.6	8.5	9.3	8.0	4.2	2.5	5.8	5.4	5.4	4.0	7.7	4.0
	SERVICE YEARS	'n	2	2	2	2	2	2	2	2	5	2	2	50	20	20	20	20	20	20	23	20	23	20	20	5	
OENIHED	STRESS	497.9	6.165	496.2	517.5	517.5	517.5	755.3	755.3	752.2	778.3	778.0	778.0	4.044	449.4	447.3	470.6	4.10.6	470.6	692.3	692.3	688.4	715.7	715.7	715.7	539.6	806.8
	DEF/WZ	9660.0	0.1550	6-1535	0.1649	0.1659	0.1121	0.2781	0.4327	0.4213	0.4585	J.4615	0.3118	0.0873	0-1259	0-1345	0.1436	3-1445	0.0976	0.2050	0.3190	0.3127	0.3578	0.3600	0.2432	0.1592	9.4098
NORM	CNAA	1328.	1328.	1531.	577.	577.	577.	13.	13.	15.	•9	•9	• 9			14164.									44.	232.	2.
FOR ESUB	AANS	561.	561.	.909	239.	239.	239.	7.	7.	8	e e	3.	3.	4670.	4670	5119.	1851.	1851.	1851.	.00	.99	75.	29.	29.	29.	91.	:
	SSUB	34283.	14158.	14158.	14158.	13980.	30628.	34283.	14158.	14158.	14158.	13580.	30628.	34283.	14158.	14156.	14158.	13980.	30628.	34283.	14158.	14158.	14158.	13980.	30628.	17732.	17732.
	130	N. S.	KEEL	KEEL	K.:.k	KEEL	KESL	SIDE	3015	SIDE	30.12	3013	SIDE	Kell	E. X	K	K:EL	KESL	KTEL	3C13	SIDE	SIDE	SIDE	SIDE	SIDE	KEL	31.05
	STATICA FROM-TC			30 53.									77 78.												. 77 78.		16 52.
	FACILITY			Rh 15-33									Rh 15-33			RN 15-33									RM 15-33		RH 1-19

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BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION SUMMARY OF AIRCRAFT FURECAST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS EQUIVALENT AIRCRAFT OPERATION: 8727-200 WEIGHT: 170000. LBS PAVEMENT MODEL: CCDE LAYER THICKNESS EVALUE POISSON UNIT-PRICE CCL PCC 8.0 4000000.0.12 1.23 RLC ***** 1503050.0.16 0.84 SSBS 6.0 20000.0.31 0.33	ON ANALYSI O. LBS -PRICE -23	
NTERNATIONAL AIRPORT - FAA NEW ENGLAND T FJRECAST, FUNCTIONAL LIMITS AND THICK AFT OPERATION: 8727-200 WEIGHT: 1 CCDE LAYER THICKNESS EVALUE PCISSON CCL PCC 8.0 4009000.0.12 RLC **** 1503050.0.16 SSRS 6.0 20000.0.31	NESS NESS TOCC UNIT	0.33
NTERNATIONAL AIRPORT - FAA NEW I T FURECAST, FUNCTIONAL LIMITS AI AFT UPERATION: 8727-200 WI CCDE LAYER THICKNESS FVALUE I CCL PCC 8.0 4000000. CCL RLC **** 1503050. SSBS 6.0 20000.	ENGLAND THICK ND THICK EIGHT: 1 PCISSON 0.12	0.16
NTERNATIONAL AIRPORT -  T FJRECAST, FUNCTIONAL  AFT OPERATION: 8727-20  CCDE LAYER THICKNES  CCL PCC 8.0  SSBS 6.0	LIMITS AND MINE AND MINE S EVALUE S	1503333.
NTERNATIONAL  T FURECAST, F  AFT UPERATION  CCDE LAYER  CCL PCC  RLC  SSRS	AIRPORT - UNCTIONAL : 8727-20 THICKNES 8.0	# J. 9
NTERNI T FURE CCDE CCL	CAST, FERATION LAYER	R LC S SBS
BURLINGTON I ARY OF AIRCREF UIVALENT AIRCR VEMENT MODEL:	BURLINGTON INTERNA ARY OF AIRCRAFT FUR UIVALENT AIRCRAFT UP VEMENT MODEL: CODE COL	

FAM*2	4444	4444	4 4	4004444444	0.4
LAYER FAM/2 het	44444	4444	4 4	4444444444	•••
RLC FAM	14444	00000		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.4
THICKNESS OF FAM/2 FAM*2 NORM NORM	00000	00000	• • •	000000000000	0.0
THICKN FAM/2 NORM	4444	000000	4 4	4444444444	4.0
NORM MORM	44444	44444	4.0	4444444444	4 4
DESIGN SERVICE YEARS	<b>~~~~~</b>	ัพพพพพเ	w w	50000000000000000000000000000000000000	N IN
DEFINED LIMIT STRESS RLC	297.3 297.3 296.6 305.6	453.2 453.2 451.4 467.5	467.5	267.8 267.8 267.0 281.4 281.4 281.4 414.8 412.6 429.8 429.8	323.4
AND FAN LIMIT DEF/WZ	0.0969 3.1507 0.1493 0.1613	00000	0.2955	0.0849 0.1321 0.1337 0.1395 0.0469 0.1947 0.3298 0.3398	0.1547
	1369. 1369. 1569. 569.	13. 13. 15.	• •	111445. 13881. 4321. 4321. 1114. 129. 43. 43.	230.
FOR FSUB NCFM AANS AAND	511. 511. 537. 213.	213.77.73.		4202. 44302. 1592. 1592. 1592. 56. 256.	80.
ESUB NCRM	34285. 14158. 14158. 14158.	30628 24283 14158 14158	13980. 30628.	34283. 14158. 14158. 119453. 13946. 34283. 14158. 14158. 13986.	17732.
767	# # # # # # # # # # # # # # # # # # #	SIOE SIOE	SI DE SI DE	2002 2002 200 2002 2002 200 2003 2003 20	KEEL SIDE
STATICN FRCM-TC		30 - 53 - 51 - 53 - 53 - 53 - 53 - 53 - 53		3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	16 52.
FACILITY	77775	F. F. F. F. F. F. F. F. F. F. F. F. F. F	15-	ARREST PROPERTY OF THE PROPERT	FW 1-19 FW 1-19

BURLINGTON INTERNAT: CNAL AIRPORT - FAA NEW ENGLAND REGION

AND THICKNESS ANALYSIS	WEIGHT: 170000, LBS
SUMMARY OF AIRCRAFT FORFC, ST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS	EQUIVALENT AIRCRAFT OPERATION: 8727-200

THICKNESS EVALUE POISSON UNIT-PRICE 18 # 1 INFI LAYER LC/PAV ASTOP LCFA PAV PAVEMENT MODEL: CCDE

FOR EPAN HORM AND FAM DEFINED  LUCKA **** 1,0070-0, 0.77  LUCKA **** 1,0070-0, 0.77  LUCKA **** 1,0070-0, 0.77  FOR EPAN HORM AND FAM DEFINED  LUCKA THE *** 1,0070-0, 0.77  FOR EPAN HORM AND FAM DEFINED  LUCKA THE *** 1,0070-0, 0.77  FOR EPAN HORM AND FAM DEFINED  LUCKA THE *** 1,0070-0, 0.77  LUCKA THE *** 1,0070-0, 0.77  FOR EPAN HORM AND FAM DEFINED  LUCKA THE *** 1,0070-0, 0.77  LUCKA THE *** 1,0070-0, 0.77  RM 15-33 0 3. KELL 179545. 887. 1351. 0.0720-2 220-4  RM 15-33 0 5. KELL 179545. 887. 1352. 0.0724-2 220-4  RM 15-33 0 5. KELL 179545. 887. 1352. 0.0724-2 220-4  RM 15-33 0 5. KELL 179545. 870. 0.0724-2 220-3  RM 15-33 0 5. KELL 179545. 12. 11. 11. 11. 11. 11. 11. 11. 11. 11
FOR EPAN HOFM AND FAM DEFINE
CL/PAN ASTCP   3.0   201300. 0.23   1.15
CC/PAV ASTCP   3.0   201300. 0.23
CC/PAV ASTCP   3.0   201300. 0.23
LC/PAV ASICP 3.0 201300.  LCFA **** 110070.3.  PAV INFI **** 110070.3.  FRUITY STATION LCC ZPAV ANS AND DEF/NZ LSTRESS SERVICE  LIMIT LIMIT DESIGN  LIMIT LIMIT DESIGN  LIMIT LIMIT DESIGN  LIMIT LIMIT DESIGN  LECKTOR AND DEF/NZ LSTRESS SERVICE  LECTT NOTE 3485.  LE
CLC/PAV ASTCP   3.0
CILITY STATION LOC TPAY AANS AAND FROM HOEM LOC TPAY AANS AAND LOC TPAY AANS AAND LOC TPAY AANS AAND LOC TPAY AANS AAND LOC TPAY AANS AAND LOC TPAY AANS AAND LOCATED STABS. B87. 1351. 15-23 33-50-52. KEEL 179545. B87. 1351. 15-33 53-69. KEEL 179545. B87. 1351. 15-33 53-69. KEEL 179545. B87. 1351. 15-33 53-69. LOCATED STABS. LOCATED ST
CILITY STATION LOC TPAY AANS AAND FECH-TC NCRM RGT- 1351- 13
FOR EPAV FRCM-TC TPAV AANS FRCM-TC NCRM NCRM FRCM-TC NCRM NCRM 15-23 30-30-52 KEEL 179545-887-15-23 33-50-52 KEEL 179545-887-15-33 33-50-52 KEEL 179545-887-15-33 30-52-53 SIDE 179545-122-12-33 30-52-53 SIDE 179545-820-5-12-33 30-52-6-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-5-
15-33 0 3. KELL 15-33 0 3. KELL 15-33 3 50. KELL 15-33 3 50. KELL 15-33 20 53. KELL 15-33 20 5
15-33 0 3. KELL 15-33 0 3. KELL 15-33 3 50. KELL 15-33 3 50. KELL 15-33 20 53. KELL 15-33 20 5
FROM 19 19 19 19 19 19 19 19 19 19 19 19 19

12.1

10.6 11.7 11.3

9.9

10.3

241.7

261. 0.0812

153.

32267.

SI DE

16.- 52.

RW 1-19

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THICKNESS	WEIGHT: 170000. LBS	UNIT	1.58
THIC			
()	IGHT	NOSSIC	0.23
SAN	T.	UE P	2000000 0.23
LIMIT		EVAL	\$600000. 0.11 200000. 0.23 ++++ 0.27
DAAL	7-200	KNESS	1.0 INF I
NCTI	872	THIC	# H N
ST, FL	AT IUN	AYER	P CCR A STCP P AV
ORECA	CPER	. T	CC/PAV PCCR ASTCP PAV
FT F	RAFT	000	700
A IRCS.	T AIR	MCDEL:	
CF	ALEN	FINE	
MMAE	EQUIV	PAVER	
Su			
	SUMMARY CF AIRCRAFT FORECAST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS	SUMMARY CF AIRCRAFT FORECAST, FUNCTIONAL LIMITS EQUIVALENT AIRCRAFT OPERATION: B727-200	SUMMARY CH DIRCRAFT FORECAST, FUNCTIONAL LIMITS AND THICKNESS ANALY:  EQUIVALENT AIRCRAFT OPERATION: 8727-200 WEIGHT: 170000. LBS  PAVEMENT MODEL: CODE LAYER THICKNESS EVALUE PCISSON UNIT-PRICE

LAYER FAM/2 FAM*2	8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4 4 9 9 6 0 1 1 0	40.	7.00 1.00	8.5 8.9
PCCR FAM MET	40000	4499	4 6 6	4 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8.7
ESS OF FAM#2 NORM	4 8 8 8 8 0 4 4 8 8	44000	4 6 0	400004433344 04003000000000000000000000	8.1
THICKNESS OF FAM/2 FAM#2 NORM NORM	8.1 8.1 8.3	44000	2.0.4	4 @ @ @ Q 4 4 N N N Q 4	7.7
NORM MORM	4 8 8 8 8 C W W O O	44000	4 0 0 0	400004400004	7.9
DESIGN SERVICE YEARS	ላየነሳላ	พพพพพ	יאיטי	00000000000000000000000000000000000000	νĸ
UEFINED LIMIT STPESS PCCR		837.22		495.1 495.1 491.7 516.0 516.0 764.9 760.3 760.3 760.3	596.4
AND FAM LIMIT UEF/WZ	0.0370 0.0838 0.083C 0.0893	0.0410 0.1069 0.2426 0.2375	0.2720	0.0324 0.0735 0.0728 0.03778 0.0375 0.1768 0.1768 0.1732 0.2022	194. C.0996 2. U.2522
AAND	966. 11.05. 430. 430.	13° - 11° - 13° -	<b>; ; ;</b>	7697. 7697. 9122. 2937. 2937. 76. 76. 76. 29.	194.
AANS	765. 762. 762. 319.	319.		6229 6229 7150 7152 2752 2752 874 422 422	119.
EPAV	24885. 34885. 34885. 34885.	165589. 179545. 34885.	27745. 165589.	179545. 34885. 34885. 27746. 179549. 179549. 34889. 27745.	32267.
267				SSECTION STREET	KC3L SIDE
STATION FRCM-TL	53 - 53 69 69 17			23 - 1 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	it 52. 16 52.
FACILITY	RY 15-33 RY 15-33 RY 15-33 RY 15-33 RY 15-33			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	RN 1-19 Kw 1-19

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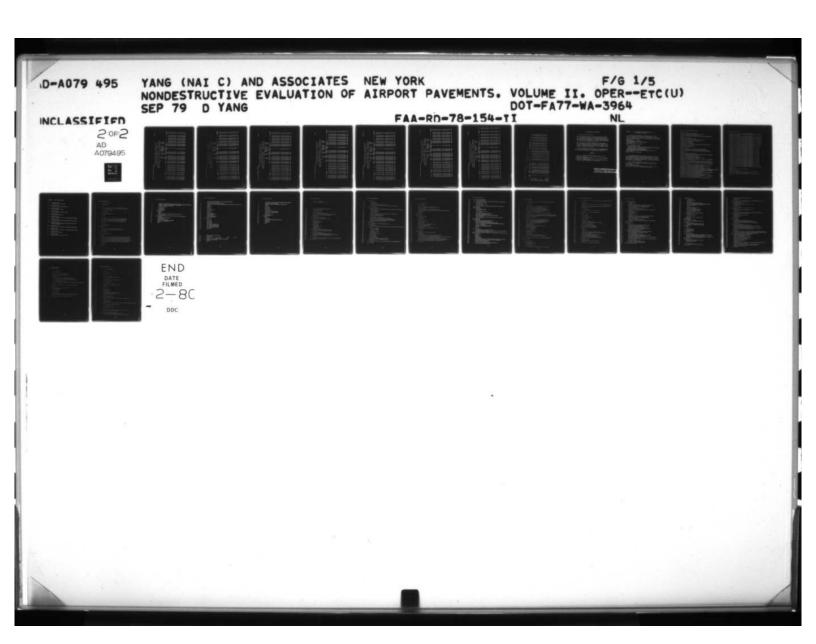
SUMMARY OF AIRCRAFT FORECAST, FUNCTIONAL LIMITS AND THICKNESS ANALYSIS

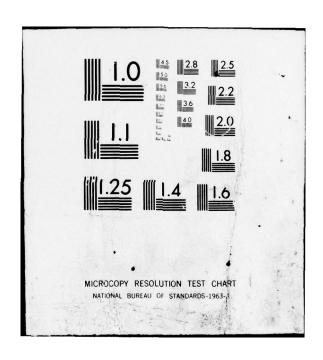
WEIGHT: 170000. LBS PAVEMENT MODEL: CODE LAYER THICKNESS SVALUE POISSON UNIT-PRICE 2000000 0.23 EQUIVALENT AIRCRAFT OPERATION: 8727-200 AC/PAV ASTCP ASBS PFLPAV

1.03

1.0

	VELVAV	100	AC 2	AC 2	AC 2	AC 1	200	223	AC 2	AC 2	AC 2	AC1	200	7 23	275	AC 2	AC 2	AC I	200	200	AC 2	AC 2	AC 2	AC1	200	178		40.
	WET				1.2									1.0	5.8	6-1	4-4	7.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8		2.1
AYER	WET	1.0	1.0	1.0	1.0	1.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.7	6-5	2.2	5.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0			7.0
ASBS L	E L	1.0	1.3	1.6	1.0	5.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4 . 4	200	3.3	6.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0			7.0
SS OF	NORM	1.0	1.0	1.0	1.0	1.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.7	0	1.4	4.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0			7.0
HICKNE	NORM NORM	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0		1.0	2.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0			7.0
	NON	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.7	2.0		3.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0			7.0
DESIGN	YEARS	2	2	5	2	5	S	2	2	2	ın	2	2	20	20	200	2.0	2.0	20	20	20	20	20	20	20	U		^
DEFINED	SIKESS	431.9	127.6	126.9	132.1	132.1	6.855	654.8	156.3	195.4	2.11.6	201.6	674.6	289.9	112.3	112.4	117.0	117.9	408.4	6003.4	178.3	177.2	183.5	183.5	650.9	0 001	13001	210.5
AND FAM		9.3949	0.1138	0.1127	0.1238	0.1215	0.1061	0.2455	3.2899	0.2823	0.2976	0.2995	0.2865	0.6830	1000	8 800	0.1050	0.1057	0.0519	0.1823	0.2117	0.2076	3.2365	0.2380	0.2109		201100	0.2660
NOKA	AAND	1647.	1133.	1254.	514. 0	514.	768.	16.	11.	13.	.0	5.	8	16052	20 70	11342	2000	3825	9669	161.	95.	113.	38.	28.	.07		•017	
FOR ESUB	AANS	543.	1003.	1120.	464.	****	231.	7.	14.	15.	7.	7.	3.	4515-	0266	10650	4563	4563	1772.	63.	126.	145.	67.	67.	28.		• • • • •	• 7
	NOCH	34283.	14158.	14158.	14158.	13980.	30628.	34283.	14158.	14158.	14158.	13980.	30628.	34783.	14168	14100	14158	13587.	30628	34283.	14158.	14158.	14158.	13980.	30628.		11136	1//32.
	36	KEBL	KEEL	KEEN	KEEL	Keil	KEEL	SIDE	SIDE	SIDE	SIOE	SIDE	SI DE	KEF	1 11 11 11 11 11 11 11 11 11 11 11 11 1	, L	1 - C	×	KERL	SI 05	51 JE	SIDE	SIDE	SI 02	SIDE	1	ינו	5105
	FROM-TC												77 78.					69 - 77									10	
	FACILITY	-	-	-	Fw 15-33	_	-	-	-	_	_	_	RW 15-33	-5	1 2		101	Rw 15-33	15-	15-	7	15-	15	15-	15		- T- T - E W	





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# LISTING OF PAVEMENT DESIGN AND COST ANALYSIS

			THICKNESS	1.0	1.0	1:1		0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.3	3.4	2.4	2.5	1.0	0.1	1.0	1.0	1.0	1.0	1.0
			b C v	11.61	11.61	11.00	11.56	11.56	11.27	11.27	11.29	11.09	11.09	11.09	11.70	12.75	12.81	12.31	12.35	11.67	11.62	11.62	11.64	11.52	11.52	11.52
			221	10.96	10.96	11001	10.06	10.96	10.96	10.96	10.56	10.96	10.56	10.96	10.96	12.06	12-12	11.64	11.68	10.96	10.96	10.96	10.96	10.96	10.96	10.96
LBS	RICE	20082	AMC	90.0	90.0	000	000	0.05	90.0	9000	40.0	0.03	0.03	0.03	90.0	90.0	90.0	90.0	90.0	90.0	90.0	9000	90.0	0.05	0.05	0.05
WEIGHT: 17C000. LBS	PCISSON UNIT-PRICE	3 1-15 7 0.65 9 0.52 0.52 0.35	FUNCTION GOVERNED	STR/MT	STRIMT	SIR/MI	STRIMI	STR/MT	STR/MT	STRIMT	STRIMT	STRIMI	STRIMT	STR/MT	STRIMT	STR/MT	STRIMT	STRIMT	STRIMT	STR/MT	STR/MT	STRIMT	STR/MT	STRIMT	STR/MT	STR/MT
WEIGH	ALUE POIS	200000. 0.23 100000. 0.17 600000. 0.19 400000. 0.20 ++++ 0.34	DESIGN SERVICE YEARS	5	so t	•	u u	י יי	S	2	2	2	2	2	20	23	20	52	20	20	50	50	50	20	20	50
1727-200	THICKNESS EVALUE	3.0 20 6.5 110 6.0 60 **** 40	FCRECAST AIRCRAFT MUVEMENT	FAMSUG	FAMSUG	FAMSUS	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG
II VALENT AIRCRAFT OPERATION: 8727-200	LAYER	ASTOP LCFR LCFR LCFC Sub	AI RPORT NAVI GA TION SY STEM	LIGHTS/ILS	LIGHTS/1LS	LISH 15/115	LICHIS/ILS	LIGHTS/11.5	LICHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	L16H15/1LS	LIGHTS/ILS	LIGHTS/ILS	L16H1S/1LS	LIGHTS/ILS	LIGHTS/ILS	L16H15/1LS	L16H1S/1LS	L16H1S/1LS	L16H15/1LS	LIGHTS/ILS	LIGHTS/ILS	L16H15/1LS
AIRCRAFT	MCDEL: COJE	רנ	E SUB NCRM	34283.	14158.	14158.	14158	30628	34233.	14158.	14158.	14158.	13580.	30628.	34283.	14158.	14158.	14158.	13580.	30628.	34283.	14158.	14158.	14158.	13580.	30628.
VALSMT	EMENT M		VEL	145.	145.	145	145.	145	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.
1003	PAVE		10		1 0.12	5	3.0	0	0.1	5.	0.1	3	0.1	2.1	0.1	:	1.0	0.1	0.1	1 0.12	0.1		0.1	.0	0.1	
			1.00	Kel	Karl	Y :	× ×	¥	SID	SID	SIJ	510	SID	SIS	X	Kin	Y.	X.Y	Killing	KCEL	SID	SID	SID	210	SIO	210
			STATION FRCM-TO		3 30.															77 78.						
			FACILITY	_	EW 15-33	-	-	-	_	~	_	_	_	~	_	-	-1			RW 15-33		_	_	-	-	

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ANALYSIS
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DESIGN AND
PAVEMENT
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				THICKNESS	1.2	0.4	3.1	3.2	1.0	1.0	1.3	1.0	1.0	1.0	1.0	3.4	6.9	7.2	2.6	2.1	3.0	1.0	0.1	1.0	0.1	1.0	1.0	3.	1-0
				PC V	7.59	10.42	10.63	9.53	7.37	96.9	96.9	66.9	6.74	6.74	6.74	96.6	13.42	13.68	12-12	12.18	65.6	7.47	7.47	7.49	7.34	7.34	7.34	7.32	17.9
				201	6.23	9.16	9.37	8.30	90.9	90.9	90.9	96.9	90.9	90.9	90.9	8.52	12.14	12.40	10.83	10.89	8.09	90.9	90.9	90.9	90.9	90.9	90.9	6.12	90.0
	135	RICE	n m o m	AMC	90.0	0.08	0.08	9.08	90.0	90.0	90.0	90.0	0.05	0.05	0.05	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	0.00	0.08	0.08	0.08	90.0	0.02
SIS	MEIGHT: 170000.	PCISSON UNIT-PRICE	00.00	FUNCTION	DEF/DI	DEF / DI	OCF/DI STR/MT	STRIMT	STR/MT	STRIMT	STR/MT	STRIMT	STRIMT	STRIMI	STR/MT	OEF/01	DEF/DI	CEF/DI	DEF /DI	DEF/DI	DEF/DI	STR/MT	STR/MT	STRIMT	STRIMT	STR/MT	STR/MT	DEF /DI	STRIMI
COST ANALY	WEIGHT	EVALUE PCISS	200000. C.23 150369. C.24 40390. C.28 ++++ 0.34	DESIGN SERVICE YEARS	S	2	rv r		'n	5	2	2	S	2		20	20	50	20	20	20	20	20	20	20	20	. 20	<b>6</b>	10
DESIGN AND	8727-299	THICKNESS EV	2.0 20 **** 15 6.0 4 INFI	FORECAST AIRCRAFT MOVEMENT	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG
LISTING OF PAVEMENT DESIGN AND COST AWALYSIS	VALENT AIRCRAFT OPERATION:	LAYER	ASBS ASBS ACBS SUB	AI RPCKI NAVI GATION SYSTEM	LIGHTS/!LS	L1GHTS/1LS	LIGHTS/1LS	1 164 15/11 5	L16H 7S/1LS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/ILS	L16H15/1LS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/1LS	LIGHTS/1LS	LIGHTS/ILS									
LISTING	AIRCRAFT	EMENT MCDEL: CODE	AC	E SUB	34283.	14158.	14158		30.628.		14158.	14158.	14158.	13583.	50628.	34283.											30 628.	17732.	17732.
	VALENT	MENT M		vat	145.	145.	145.	145	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145	145.	145.	145.	145.	145.	145.	145.	145.	145.
	1005	PAVE		10	0.12	0.12	C.12	212	0.12	C.18	0.13	9.18	0.18	0.18	0.18	. 7	-	0.12	.:		7	7	-	7			7	0.12	-
				201	KEEL	KERL	X7.57	X	Y	SIDE	30 18	SIDE	SIDE	SIDE	<b>SC18</b>	KEZL	KELL	Keil	X	XELL	KEST	SIDE	S. 3.	SI 32	2012	SIDE	SIDE	KSEL	SIOE
				STATION FRCM-TC	0 3.		30 53.											37 53.		11		in	36		69			16 52.	- 52
				FACILITY	15-	7	Rw 15-33	15	7	15-	15	15-	5	15-	15-	75	15-	FW 15-33	7	15	15	15-	7	15-	15-	15	12	Rh 1-19	<u> </u>

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BURLINGTON INTERNATIONAL AIRPORT - FAA NEW ENGLAND REGION

ANALYSIS
COST
ANC
DES I GN
PAVEMENT
90
LISTING

			THICKNESS	7.4	8.7	8.8	8.4	4.8	7.2	4.0	4.8	6.4	4.5	4.5	4.0	8.3	7.6	7.6	8.5	9.3	8.0	4.2	2.1	5.8	5.4	2.4	0.4	7.7	4.0
			PCV	16.74	18.37	18.41	17.88	17.91	16.46	12.13	13.12	13.22	12.34	12.37	11.80	17.98	15.62	15.68	15.07	19.09	17.63	13.02	14.80	14.90	14.23	14.25	12.59	16.90	11.25
			100	15.62	17.31	17.35	16.89	16.92	15.42	11.51	12.54	12.60	12.07	12.10	11.51	16.74	18.45	18.50	17.93	17.96	16.44	11.80	13.65	13.72	13.25	13.28	11.56	16.00	11.51
188	RICE	w C m w	AMC	60.0	60.0	60.0	60.0	60.0	60.0	0.05	0.05	90.0	9.00	40.0	0.04	0.10	01.0	01.0	60.0	60.0	60.0	9000	6000	60.0	90.0	0	0.08	90.0	0.01
WEIGHT: 170000.	SON UNIT-P	2 1.23 3 0.67 1 0.33 4 0.35	FUNCT ION GOVERNED				STRIMT			STRIMT	STRIMT	STR/MT	STR/PT	STR/MT	STR/MT	STR/MT	STR/MT	STR/MT					STR/MT						
WEIGH	VALUE PGIS	20000. 0.12 20000. 0.23 20000. 0.31 ++++ 0.34	DESIGN SERVICE YEARS	8	2	2	2	S	S	5	2	2	2	5	S	20	20	20	20	20	20	23	50	20	20	20	50	50	5
8727-200	THICKNESS EVALUE PGISSON UNIT-PRICE	6.0 2 6.0 2 8.0 INFI	FORECAST AIRCAAFT MOVEMENT	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUS	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSIJG	FAMSUG						
VALENT AIRCRAFT OPERATICN: 8727-200	LAVER	PCC CTB SSBS SUB	AIFPORT NAVIGATION SYSTEM	LIGHTS/ILS	L16415/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/1LS	L16415/1LS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS.	LIGHTS/1LS	LICHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/!LS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS
AIRCRAFT	EMENT MODEL: CODS	ដ	E SUB	34283.	14158.	14158.	14158.	13580.	30628.	34282.	14158.	14158.	14158.		30628.	34283.	14153.	14158.	14158.	13569.	30 628.	34283.			14158.	13580.	30626.	17732.	17732.
V AL ENT	MENT .		VEL	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.
E901	PAVE		10	9.12	C.12	0.12	9.12	0.12	0.12	0.18	0.18	0.18	1).18	9.16	3.18	0.12	4.12	0.12	0.12	5.12	0.12	0.18	0.18	0.18	0.18	C.18	0.18	7	0.18
			707	KEFL	KELL	KELL	X :: L	¥	KEEL	SIDE	SI 35	SIDE	SIDE	SIDE	SIDE	KEEL	X.F.	KEEL	XECL	KELL	Kiel	3013	SIDE	SIDE	SIDE	SIDE	SIDE	KEEL	SIDE
			STATION FRCM-TC			20 53.														69 77.							77 78.		16 52.
			FACILITY	_	_	RW 15-33	_	_	_	•	_	_	_	_	_	_	_	_	-	Kn 15-23	_	_	-	_	_	_	_		RW 1-19

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	185	2710
•	170000.	HATTO
ANALTSI	MEIGHT: 170000. LBS	NO 3 3 10 0
ר כחאו		31: 14/3
DESTON EN	8727-200	JOENNAUTH.
LIVING OF PAVENER! DESIGN ENL COS! ANALTSIS	EQUIVALENT AIRCRAFT OPERATION: 8727-200	STINGSTON THE STANDARD STANDARD CONT. SOC. 1800M THEMSTARD
רואויאה ח	AIRCRAFT	2000 - 120
	EQUIVALENT	DAVENTAT M

1.23	0.84	0.33	0.35
0.12	0.16	0.31	0.34
.003000	500000	20000	****
4	-		
224	RLC	SSBS	SCB
100			
	PCC 8.0 4003000. 0.12	PCC 8.0 4003000.0.12 RLC **** 150000.0.16	CCL PCC 8.0 4.030.00.0.12 1.23 RLC **** 1500000.0.16 0.84 SSBS 6.0 20000.0.31 0.33

STATION FRCM-TC	10 01	VEL	F SUB NCRM ++++	AIRPORT NAVIGATION SYSTEM	FORECAST AIRCRAFT MOVEMENT	DES 1GN SERVICE YEARS	FUNCTION GCVERNED	AMC	2	20	THICKNESS
	1.12		34283.	LIGHTS/ILS	FAMSUG	5	STR/MT	10.0	15.52	16.35	4.0
	.12		14158	LIGHTS/ILS	FAMSUG	2		0.07	15.52	16.35	4.0
:)	.12		14156.	LIGHTS/ILS	FAMSUG	2		10.0	15.52	16.36	6.4
C	.12		14158.	LIGHTS/1LS	FAMSUG	2		10.0	15.52	16.28	4.0
0	12		13580.	LIGHTS/ILS	FAMSUG	2		0.07	15.52	16.28	6.4
C	12		30628.	LIGHTS/ILS	FAMSUG	2		10.0	15.52	16.28	4.0
3	18		34283.	LIGHTS/ILS	FAMSUG	2		90.0	15.52	15.79	4.0
0	18		14158.	LIGHTS/ILS	FAMSUG	2		40.0	15.52	15.79	4.0
0	18		14158.	LIGHTS/ILS	FAMSUG	2		0.05	15.52	15.82	4.0
C	18		1415P.	LIGHTS/ILS	FAMSUG	2		0.03	15.52	15.50	0.4
C	18		13580.	LIGHTS/ILS	FAMSUG	5		0.03	15.52	15.50	4.0
SIDE 0.	18	145.	30628.	LIGHTS/ILS	FAMSUG	8	STR/MT	9.03	15.52	15.50	4.0
•	,				0.000	:					,
	77		24683.	LIGHISTILS	PAMSOC	07		000	72.61	10.49	
C	12		14158.	L1GHTS/ILS	FAMSUG	2.0		0.08	15.52	16.49	6.4
	12		14158.	LIGHTS/ILS	FAMSUG	20		0.08	15.52	16.49	0.4
2	12		14158.	LIGHTS/ILS	FAMSUG	20		90.0	15.52	16.43	4.0
-	12		13580.	LIGHTS/ILS	FAMSUG	20		0.08	15.52	16.43	4.0
C	12		30628.	L16H15/1LS	FAMSUG	53		90.0	15.52	16.43	4.0
·.	18		34283.	LIGHTS/ILS	FAMSUG	23		10.0	15.52	16.31	4.0
Ċ	18		14158.	L IGHTS/ILS	FAMSUG	50		0.07	15.52	16.31	4.0
C	18		14158.	LIGHTS/ILS	FAMSUG	20	STR/MT	0.07	15.52	16.33	6.4
0	18		14158.	LIGHTS/ILS	FAMSUG	20		90.0	15.52	16.14	0.4
C	18		13580.	LIGHTS/ILS	FAMSUG	50		90.0	15.52	16.14	4.0
S10E 0	.18	145.	30628.	L16H15/1LS	FAMSUG	20		90.0	15.52	16.14	4.0
0	-		17732	1 TGH TS/11 S	FAMSILE	ď		90-0	15.52	16-17	4.0
SI DE O.	18	145.	17732.	LIGHTS/ILS	FAMSUG	S	STR/MT	00.0	15.52	15.03	4.0
•											

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## LISTING OF PAVEMENT DESIGN AND COST ANALYSIS

EQUIVALENT AIRCRAFT OPERATION: 8727-200 WEIGHT: 170000. LBS PAVEMENT MCDEL: CODE LAYER THICKNESS EVALUE PCISSON UNIT-PRICE

	FESS		. ~	_			-													_			_					
	THICKNESS	1.6	10.	11.0	10.	11.4	1.0	1.6	9.9	6.7	4.9	7.3	1.6		12.	12.	11.8	12.8	1.0	1.0	7.6	7.6	7.	8.2	1.	10.3	4 3	•
	<b>P</b> CV	5.37	11.37	11.12	10.79	11.33	5.32	5.30	8.24	8.29	7.91	8.44	4.82	9 7 9	11.00	12.00	11.66	12.23	5.45	5.45	9.20	9.56	8.93	9.46	5.32	10.58	7 70	
	100	4.22	10.13	10.17	9.88	10.45	4.22	4.22	7.58	7.60	7.43	7.97	4.22	66 7	10 04	10.90	10.44	11.25	4.22	4.22	8.14	8-18	7.96	8.51	4.22	9.75	7 30	0000
νog	AMC .	10.0	0.07	0.07	0.07	0.07	10.0	90.0	90.0	0.05	9.04	40.0	0.04	0	000		000	10.0	10.0	2.07	10.0	0.07	10.0	0.07	10-0	90-0	200	70.0
1.15	FUNCT ION GOVERNED	STR/NT			STRIMT								STR/MT	744 072	210/012	STR/AL	STE/MI	STRIMT	STR/MT	STRIMT	STR/MT	STR/MT	STR/MT	STR/MT	STR/MT		747 073	
203300. 0.23 1103300. 0.17 ++++ 0.27	DESIGN SERVICE YEARS	•	'n		5	2	\$	5	5	2	2	2	s		200	000	200	20 20	50	20	20	50	20	20	20	•		•
3.0 20 **** 1100 INFI	FORECAST AIRCRAFT MOVEMENT	FAMSIJG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	01107140	2000	SOSMAL	DONAT	FAMSLIG	FAMSUG	FAMSIIG		LABOUC						
LC/PAV ASTOP LCFA PAV	AIRPCRT NAVIGATION SYSTEM	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	L IGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	2 111 21 121	110110110	LIGHTS/ILS	110415/115	116HTS/11 S	L16H15/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	I IGHTS/II S		L16H 15/1 L5
רכא	FPAV NCRM +	179545.	34685	34665.	34885.	27745.	165589.	179545.	34885.	34885.	34885.	27745.	165589.	373061	37.006	34885	24885	27745	165589.	179545.	34885.	34885	34685.	27745.	165589.	32267		26.001
	VEL	145.	14.5	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	37.	145		145	145	145.	145.	145.	145.	145.	145.	145.	145.		142.
	10 201	-	S	KELL 0.12	0.1	0.1	2.1	0	2.1		0.1	:	7		:		Seel Polz		6.1	0			9.1	0.1	SIDe 0.18	-	2000	•
	STATION I		30		.69	77.	76.	",	36.	53.	• 59	17.	78.	,	•	36.		77.	.8/	6	36.	53.	.69	77.	78.	52		25.
	FACILITY	15	15		7	15	15-	15-	15-	15-	15	15-	RW 15-33		1	1	KW 15-33	15	15-	15-	7	15	7	15	7	1		=

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	185
S	WEIGHT: 170000. LBS
ANALYSI	WE JGHT :
CAST	
ANE	0
<b>DES 16N</b>	8727-23
LISTING OF PAVEMENT DESIGN AND COST ANALYSIS	OPER AT ION:
LISTING C	AIRCRAFT
	EQUIVALENT AIRCRAFT OPERATION: 8727-290

PAVEMENT MCDZL: CODE LAYER THICKNESS EVALUE PCISSON UNIT-PRICE

	22																			•							
	THICKNESS	0-4	8.3	8.3	8.0	8.6	4.0	4.0	5.6	5.6	5.4	5.9	4.0	4.0	9.1	8.5	8.8	9.3	4.0	4.0	6.1	6.1	5.9	4.9	4:0	•	•
	PCV	95.6	16.11	16.18	15.59	16.41	9.46	8.79	11.18	11.27	10.58	11.29	8.43	9.76	17.52	17.62	16.99	17.79	9.70	9.56	12.73	12.82	12.25	13.03	6.35	16 31	13.61
	100	7.64	14.44	14.50	13.99	14.85	7.64	7.64	10.12	10.16	9.86	10.60	7.64	7.64	15.69	15.78	15.29	16.03	7.64	7.64	10.93	10.99	10.64	11.45	1.64		1001
	AMC	0.12	0.12	0.12	0.11	0.11	0.11	90.0	60.0	80.0	90.0	90.0	90.0	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.11	3.11	0.11		01.0
1.15	FUNCTION GOVERNED	STR /MT					STRIMI	STRIMT		STRIMT	STR/MT	STRIMT	STRIMT	STRIMT	STRIMT	STRIMT	STRIMT			STR/MT				STR/MT	STR/MT	1000	SI PA IN
2003000. 0.11	DES IGN SERVICE YEARS	ď	· w		S	S	S	2	s	2	2	2	5	50	23	50	20	20	50	20	20	23	50	23	50		n
1.0 20 INFI	FORECAST AIRCRAFT MOVEMENT	FAMSIIG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FA:4SUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	01.014.0	SOCEAL
A STCP	AI RPCRT NAVI GA TIGN SY STEM	P ITCHTS/II S	1 16HTS/11 S	L16H15/1L5	L16H1S/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	L16H T3/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/11.S	LIBHTS/ILS	LI 3HTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS		CICH IS/ILS
	SPAV NCKH ++++	170565	34.685	34885	34885	27745.	165589.	179545.	34885.	34685.	34885.	27745.	165585.	179545.	34685	34685.	34885	27745.	165565.	179545.	34885	34885.	34885.	27745.	165589.	- 1000	37.2010
	VEL	145	145	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.		42
	10	-	0.12	-	7	-	7		-:	-	7	7	-	6.12	0.12	0.12	0.12	2.12	r.12	31.7	0.18	0.18	0.13	0.18	0.13	:	71.0
	707												2015												SIDE		
	STATION FRCM-TO		3 30-										77 78.												17 78.		25
	FACILITY	3	2	15-	7	15-	15	7	7	7	15	15	RW 15-33	7	7	15-	15	4	7	5	15	15-	15-	15	Rh 15-33		KH I-I'S

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LISTING OF PAVEMENT DESIGN AND COST ANALYSIS

WEIGHT: 170000. LBS THICKNESS EVALUE PCISSON UNIT-PRICE EQUIVALENT AIRCRAFT OPERATION: 8727-200 PAVEMENT MCDEL: CODE LAYER

	PFLF	AC2	AC2	AC1	223	AC2	AC2	AC2	ACI	CC7	200	AC 2	AC2	AC2	AC1	200	200	ACZ	462	ACZ	AC1	223	ACI	ACI
	THICKNESS	0.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.7	2.0	1.0	3.4	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	A C	3.68	3.87	3.81	3.12	3.43	3.46	3.22	3.22	2.85	3.32	4.72	86.4	3.96	6.37	3.76	3.64	3.91	3.94	3.80	3.30	3.48	3.71	2.78
	100	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	3.10	3.36	2.35	4.86	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
15	AMC	0.08	0.08	90.0	0.05	90.0	90.0	0.05	0.05	0.03	0.03	0.00	60.0	60.0	60.0	0.08	2000	60.0	60.0	0.08	0.08	90.0	90.0	0.03
1.15	FUNCT ION GOVERNED	STR/MT STR/MT	STR/MI STR/MT	STR/MT	STR/MT STR/MT	STR/MT	STR/MT	STR/MT	STRIMT	STR/MT	STR/MT	DEF/DI	DEF/01	STR/MT	DEF/DI	STRIMT	STRIMT	STR/MT	STR/MT	STRIMT	STRIMT	STR/MT	STRIMT	STRIMT
200000. 0.23 150000. 0.24	DESIGN SERVICE YEARS	s s	w w	w.	w w	· w	2	2	ķ	2	20	20	20	50	20	50	50	50	20	20	50	50	ır	, ru
1.0 20	FORSCAST AIRCRAFT MOVEMENT	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUG	FAMSUS	FAMSUG	FAMSHG	FAMSUG									
AC/PAV ASTUP ASBS PFLPAV	AIRPERT NAVIGATION SYSTEM	LIGHTS/ILS	LIGHTS/ILS LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	L16H15/1LS	LIGHTS/ILS	LISH TS/ILS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	L16H15/1LS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/ILS	LIGHTS/1LS	LIGHTS/ILS	LIGHTS/ILS	2 11/2TH21 1	LIGHTS/1LS
AC /	ESUB NCRM	34285.	14158.	13590.	34283	14158	14158.	14158.	13580.	30628.	34283.	14158.	14158.	14158.	12580.	30 628.	34283.	14158.	14158.	14158.	13580.	30628.	1732	17732.
	VEL	145.	145.	145.	145.	145	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145.	145	145.
	10	EL 0.12		0.1	-	0	0.1	0.1	0.1	0.1	S	C	C	ت	0	1 0.12	C	C	ن	C	0	DE 0.18		0 0 18
	ניטכי	X X	××	X.	X L	SID	SID	SID	SID	SID	X	X	KUR	EII X	X	ILI I	S10	SID	SID	SID	SIO	SID		S10F
	STATION FRCM-TO	3 30.																				77 TB.		16.0 52.
	FAC IL 1TY	Ris 15-33 Rw 15-33	7 5	15-	7.7	15	15-	15	15-	15	15-	15	15	13	15-	Rh 15-33	15-	15-	15-	12	15-	4		110

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### CUSTABLIEFIT STUCY

	C. SIGN	AIRPORT	FORECAST	HIOIM		A CITHDIPM	VATEASE	F JETSE	TE SETSENT CASH	VALUE	¥5/5			
47777	STANT C	. 71 Land TA 11.	ALFC. C.			35			L(/ ) AV	FC / PFV	11111			101
	YEARS	SYSTEM	MOVE ANN		SIDY: LCF	46		700	LC/PAV	ACIFAV	CCIPAV	\$6 /PAV	AC/PAV	PAV
AN 15-33	10	LI SHTS/ILS	FEMSUG	45./150.	: 11.3		14.44	15.90	5.78	3.07	14.02	6.36	8.32	5.60
	200	LIGHTS/ILS	FRASOG	45./15%	: 11.8		15.77	15.32	13.67	4.44	15.44	7.51	6:0	5.64
Rh 1-19	2	115475/115	FAMSUG	45./153.	: 14.9		12.95	15.37	64.5	3.38	13.34	5.74	7.37	5.37
	202	LIGHTS/1LS	FAHSUG	45./153.	: 11.4		14.71	16.10	10.56	4.23	15.11	6.37	8.37	5.44
4 * 4	2	IN RHIVISUAL	FAMSUS	41./ 75.	11.4		15.67	16.05	13.75	3.74	15.44	8.51	12.07	3.74
4 41	20	NCF4/VI SUAL	FA-15UG	41.1 75.	: 12.1		1,7,34	16.41	11.79	3.58	17.0	9.31	13.09	29.6
CAT ELAPRIN		W. WATVISUAL	FAMSUG	41.1 75.	: 11.9		16.49	15.55	11.33	3.64	16.31	8.98	12.48	9.68
GATE/APRE	30	S	FAMSUG	41.1 75.	1.12.7		18.12	10.60	12.44	4.55	17.97	9.53	13.53	10.04
ATHS TO A			FAMSUS		: 11.7		13.27	16.19	11.51	3.73	16.59	11.76	18.07	16.19
XTHS T. A	20.	S	F 1430G		: 12.9		19.45	15.40	12.49	3.53	16.16	12.93	19.45	16.40
- B	Ŋ	NCS4/VISUAL	FEMSUG		: 11.23	1 6.37	14.44	15.71	36.5	3.53	14.13	3	11.23	99.6
The st	; ;	NOTA/VISUAL	FAMSUG		11.5		1.6.19	1.6.23	66.31	3,86	15.82	8.06	12.35	9.78
Th C	2	MURA/VISUAL	FL'15UG		: 11.2		1 58	15.83	5.98	3.60	14.22	8.32	11.33	59.6
7" C	. 22	- NORMINISUAL	F4 4506	41./ 75.	: 11.5		15,17	16.29	11.32	3.90	15.88	4.71	12.42	9.19
AFREN GA	4	41	FAMSUG	:	: 11.4		36.5	15.41	3.05	5.58	11.95	9.31	12.63	10.64
FPRCN GA	53		FAMSJG		: 12.3		1.7.35	16.07	86.8	7.37	13.71	13.39	13.90	17.78
7.0	'n	NO PRIVISOAL	FAHSUG		: 11.2		14.48	15.71	10.00	3.53	14.19	8.23	11.25	99.6
110	25	N.C. RM /VI SUAL	FAMSUG		: 11.5		16,17	16.23	11.63	3.86	15.88	8.66	12.38	9.78
14.11	S	SP4/VISUAL	FAMSUG		: 11.3		14.32	15.47	10.14	3.30	14.32	8.03	11.16	3.62
14 1	3c	NO FM /VI SUAL	FAMSUC		: 11.6		15.26	10.12	11.20	3.79	16.05	8.75	12.37	9.75
T. K.	5	NERA/VISUAL	FA 13UG		: 11.3		14.66	15.90	6.63	3.65	14.25	8.38	11.40	9.70
1 k F			FAMSUG		: 11.6		16.22	16.33	16.99	3.93	16.61	8.74	12.46	9.80
APEN VAME	ď	NCP 4/VISUAL	FAMSUC		: 11.2		13.22	15.66	10.65	3.46	15.16	8.22	11.74	9.61
APRN VAMG	25	MOPM/VISUAL	FAMSUS	-	. : 12-14		.17.73	16.19	11.70	3.81	16.88	9.25	12.87	9.74
341-19:XT	25	LICHTS/ILS	F2.4SUG	-1	: 11.7		15.78	15.09						
TH NEE	1.2	NCR4/VISUAL	FAMSUG		: 12.6		18.14	16.52						
NTH-SA NU		FM/Vis	FAMSUG		: 12.2		17.15	16.22						
Th - 8119		NERAZVISUAL	FAMSUG		: 11.9		16.69	16.10						

#### ERROR MESSAGES AND DIAGNOSTICS

The input goes through two stages:

- 1. Identification stage in which the input data group or control card must be recognized. If it is not then an error message is printed. All cards are printed and the error is temporarily ignored until the next delimitor \*\* is encountered. If a control card is mispelled, the next data group will be flagged in error yet the program will assume as if the 1st card of a data group is in error.
- 2. Data verification in which the program prints a limited number of self-explanatory error messages. FORTRAN will print messages if the characters do not match the field, such as type of integer or floating point. FORTRAN will also print execution error messages, such as mispunched, incorrect or missing data.

Error messages printed in the system log at the beginning of each job listing can be referenced to the OS 360 Manual. These messages help identify whether the program, JCL or hardware caused the error.

#### REFERENCES

- Yang, Nai C., DESIGN OF FUNCTIONAL PAVEMENTS, McGraw Hill Book Company, New York, 1972.
- Yang, Nai C., "Nondestructive Evaluation of Civil Airport Pavements", FAA-RD-76-83, September, 1976.
- 3. Yang, Nai C., "Nondestructive Evaluation of Airport Pavements, Vol. I, Program References", FAA-RD-78-154 I, September 1979.



# APPENDIX 1. OS 360 JOB CONTROL CARDS FOR OPERATION AT TCC TCC OPERATION ON IBM 360/65

The program set-ups consist of two primary procedures: PAVDES, PRINT and one auxiliary procedure DELETE. These procedures may be stored on a permanent data set and referenced through use of the PROCLIB DD card, or instream procedures on cards. The following deck set-up describes the use of instream procedures: //JOBNAME JOB Instream procedure or //PROCLIB DD //EXEC PAVDES, JOBCODE='jobcode', TIME.PAVDES=15 //PAVDES.INPUT DD \* Program control cards & data groups /\* //EXEC PRINT, JOBCODE='jobcode' Jobcode is normally 7 characters, 3 letter airport, dash, and 3 letter FAA regional code. To have the output going directly to the printer instead of a print file, deck should be: //EXEC PAVDES, JOBCODE= 'BTV-ANE', TIME. PAVDES=15 //PAVDES.FTO6F001 DD SYSOUT=A,DCB=(RECFM=FA,LRECL=133,BLKSIZE=133) //PAVDES.INPUT DD\* Program control cards & data groups /\* 11

The procedures assume the load module data set, DYIM, the default input data set DYDS and the job print file (jobcode.PRINT) which are on a single removable pack D00012. Several temporary data sets, as required, are allocated on any 2 available scratch packs. The temporary data sets may be placed on the single pack D00012, but the execution wall clock time will increase due to arm contention.

There is another procedure to delete existing print files from DOO'12 if they are no longer needed. The format for using it is as: //EXEC DELETE //DD1 DD DSNAME\*jobcode.PRINT Procedure consists of a utility program to be used to delete the file. It can be used as a separate run or with the PAVDES procedure.

```
//DELETE PROC
//X FXEC PGM=TEFAR14.PEGION=10K
//DOI DO DUMMY . DISP= (OLD . DELETE) . UNIT=3330 .
// VOL=(PRIVATE . RETAIN . . . SER=D00012)
//DD2 DD DUMMY.DISP=(OLD.DELETE).UNIT=3330.VOL=SEP=D00012
11 PEND
//UPS PHOC PRINT=YES
//UP EXEC PGM=UPSED. NEGIUN=86K
//STEPLIA ON DSNAME=DYLM.DISP=SHR.UNIT=3330.
// VOL = (PPIVATE . RETAIN . . . SER=D00012)
//FTO1FOOT OD DONAME=ST
//FTOSFOOL DD DDNAME=SO
//FT04F001 DD UNIT=SYSDA.
// SPACF=(CYL+(1+1)).DCA=(RECFM=FA+LHECL=80.BLKSIZE=800)
//FT05F001 DD DDNAME=TCF
//FT06F001 DD DDNAME=&PPINT
//YES DO SYSOUT=A
YMMIIC GO ONIL
//SI DD DUMMY.DISP=SHP.HNIT=3330.VOL=SER=D00012
//SO DD DUMMY.DISP=(.KEFP).UNIT=3330.VOL=SER=D00012.
// SPACF=(CYL+(2+2))+DCP=(RECFM=FA+LRECL=80+BLKSIZE=800)
// PEND
//PAVDES PROC
// FXEC PGM=IFFBR14.RFGTON=10K
//DD1 DD DSNAME=AJO3CODF..PPINT.DISP=(OLD.DELETE).UNIT=3330.
// VOL=(PRIVATE, RETAIN, ... SER=()00012)
//PAVDES EXEC PGM=GOC.RFGION=290K
//STEPLIB DO DSNAME=DYLM.DISP=SHR.UNIT=3330.
// VOL=(PRIVATE . RETAIN . . . SER=D00012)
//FT03F001 DD DSNAME=DYDS.DISP=SHR.UNIT=3330.VUL=SER=D00012
//FT04F001 DD DDNAME=INPUT
//FT05F001 DD UNIT=(SYSDA.SFP=STEPLIH).VOL=(PPIVATE.RETAIN).
// SPACE=(CYL+(2+2))+DCR=(RFCFM=FB+LHECL=80+BLKSIZE=800)
//FT06F001 DD DSNAME=&JOBCODE .. PRINT.DISP=(.KELP).UNIT=3330.
// VOL=SER=D00012.
// SPACF=(CYL • (4•4)) • DCR=(RFCFM=FRS • LRECL=133 • BLKSIZE=1330)
//FT07F001 DD UNIT=SYSDA.VOL=REF=*.FT05F001.
// SPACE = (CYL . (2.2)) . DCR = (PECFM=FR. LHECL=80.BLKSIZE=800)
//FT08F001 DD UNIT=SYSDA. VOL=REF=*.FT05F001.
// SPACE=(CYL + (2+2)) +DCP=(RECEM=FH+LPECL=R0+BLKSI7E=R00)
//FT09F001 DD UNIT=(SYSDA.SEP=(STEPLIB.FT05F001)).VOL=(PRIVATE.RETAIN).
// SPACF=(CYL+(1+1))+DCR=(RFCFM=VSB+LRECL=1284+BLKSI7E=2572)
//FT10F001 DD UNIT=SYSDA, VOL=PEF=*.FT05F001.
// SPACF=(CYL . (1.1)) . DCR=(RFCFM=VSB.LRECL=1284.HLKSIZE=2572)
//FT11F001 DD UNIT=3330.VQL=SER=000012.
// SPACF = (CYL . (2.2)) . DCR= (RECFM=FB.LRECL=80. BLKSIZE=800)
//FT12FC01 DD UNIT=SYSDA.VOL=REF=*.FT09F001.
// SPACF = (CYL • (1 • 1)) • PCR= (RFCFM=VSR • L RECL=1284 • BLKSIZE=2572)
//FT13F001 0D UNIT=3330.VOL=SER=D00012.
// SPAC+=(CYL+(2+2))+DCH=(PFCFM=FR+LRECL=80+BLKSI7E=800)
```

```
//FT14Fr01 DD UNIT=SYSDA, VOL=REF=*.FT05F001.
// SPACF=(CYL • (1 • 1)) • PCB=(RECFM=VSB • LRECL=1284 • BLKSI7E=2572)
//FT15F001 DD DUMMY
//FT16F001 DD UNIT=SYSDA. VOL=REF=* . FT09F001.
// SPACF = (CYL + (1 + 1)) + DCP = (RECFM=VSB+LRECL=1284+BLKSIZE=2572)
//FT17F001 OD UNIT=SYSDA. VOL=REF=*.FT09F001.
// SPACE = (CYL • (1 • 1) ) • PCR= (RECEM=VSB • LRECL=1284 • BLKSIZE=2572)
//FT18F001 DO UNIT=SYSDA, VOL=PEF=*.FT09F001.
// SPACF = (CYL • (1 • 1) ) • DCP = (RECFM=VSB • LRECL = 1284 • BLKSIZE = 2572)
//FT19F001 DD UNIT=SYSDA. VOL =PEF=*.F109F001.
// SPACE = (CYL + (2+2)) + DCR= (RFCFM=VSB+LRECL=1284+HLKSIZE=2572)
//FT20F001 DD UNIT=SYSDA. VOL=PEF=*.FT09F001.
// SPACF = (CYL • (2,2)) • DCR= (RECFM=VSR • LRECL=1284 • HLKSIZE=2572)
//FT21F001 DD UNIT=SYSDA.VOL=REF=*.FT09F001.
// SPACE = (CYL • (1 • 1)) • DCR = (RECEM = FH • LRECL = 80 • BLKS17L = 800)
//FT22F001 DD UNIT=SYSDA.VOL=REF=*.FT09F001.
// SPACE=(CYL+(1+1)).PCB=(RECEM=FB.LRECL=80.HLKSIZE=800)
//FIZ3F001 DD UNIT=SYSDA, VOL=REF=*.FT09F001.
// SPACE = (CYL . (1.1)) . DCR= (RECEM=FH.LHECL=RO.BLKSIZE=800)
//FT24F001 DD UNIT=SYSDA. VOL=REF=*.FT09F001.
// SPACF=(CYL • (2.2)) • DCB=(RECFM=FB.LHECL=80.8LKSI7E=800)
//FT25F001 DD UNIT=SYSDA.VOL=REF=*.FT09F001.
// SPACF = (CYL + (1 + 1)) + DCH = (RFCFM=FB+LPECL=80+BLKSI7E=800)
//FT26F001 DD UNIT=SYSDA.VOL=REF=*.FI09F001.
// SPACE=(CYL . (2.2)).DCB=(RECEM=FR.LRECL=80.BLKSIZE=800)
//FT27F001 OD UNIT=SYSDA. VOL =PEF=*.FT09F001.
// SPACE=(CYL+(1+1))+DCB=(RECEM=FB+LRECL=80+8LKSIZE=800)
//FT28F001 DD UNIT=SYSDA. VOL=REF=*.FT09F001.
// SPACF=(CYL+(1+1))+DCP=(RECFM=FR+LRECL=80+BLKSI7E=800)
//FT29F001 DD UNIT=SYSDA. VOL = REF = * . FT09F001 .
// SPACE = (CYL . (1.1)) . DCR= (RECEM=FR, LPECL=80. HLKSIZE=800)
//FT30F001 DD UNIT=SYSDA.VOL=REF=*.FT09F001.
// SPACF=(CYL+(1+1))+DCP=(RECFM=FR+LWECL=80+BLKSI7E=800)
//FT31F001 DD UNIT=SYSDA, VOL =REF = *. FT05F001.
// SPACF = (CYL • (1 • 1)) • DCB = (RECFM=FH • LRECL=80 • BLKSIZE=800)
//FT32F001 DD UNIT=SYSDA, VOL=REF=*.FT05F001.
// SPACF=(CYL+(4+4))+DCR=(RECFM=VSB+LRECL=1284+BLKSIZE=2572)
// PEND
//PRINT PROC
//PRINT EXEC PGM=IEBGFNER.REGION=86K
//SYSIN DO DUMMY
//SYSPRINT OD DUMMY
//SYSUTI DO DSNAME=&JOHCODE .. PRINT.DISP=OLD.UNIT=3330.
// VOL=(PHIVATE + RETAIN . . . SEP=DOOD12)
//SYSUTP DD SYSOUT=4.DCB=(RECEM=FA.LRECL=133.BLKSIZE=133)
// DENO
```

# APPENDIX 2 BASIC FORTRAN LISTING

A2.01	SUBROUTINE NDTIN Compute NDT calibration factors
A2.02	SUBROUNTINE NDTE Compute E-value from NDT machine data
A2.03	SUBROUTINE LINER Linear regression for NDT2
A2.04	SUBROUTINE STAT Mean and standard deviation for NDT2
A2.05	SUBROUTINE NDT3 Compute NDT inventory file
A2.06	SUBROUTINE CALC(1) Compute Poisson's ratio, and aircraft operational weights
A2.07	SUBROUTINE CALC(2) Longitudinal and transverse wheel probability distribution
A2.08	SUBROUTINE PAVDES Equivalent single type aircraft operation and unit price of pavement components
A2.09	SUBROUTINE FAM Forecast of aircraft movement for equivalency computation
A2.10	SUBROUTINE HDES Limiting stress and deflection in pavement thickness design
A2.11	SUBROUTINE PCVCAL Compute present cash value
A2.12	SUBROUTINE COBEN Weighted average of present cash value

#### A2.01 Subroutine NDTIN

```
CALLORATION FACTORS
51
         225 WATTE (6,125)
52
53
              1P1(AL(1)=1
54
              K=0
         230 K=K+1
55
56
              ELAD(5,20,END=235) 1, J, CDATE(1,1), CDATE(1,2),
             +UTIME(I,J),ZCAL(I,J),FCAL(I,J),ZATZ,FATZ,ZATC,FATC
51
              1F(J.NE.1)GO TO 231
53
59
              IPTUAL (1)=IPTCAL(1)+1
60
              L= PPICAL(1)
61
              IPICAL (L) = I
         231 HCAL(I, J)=1.0000
62
              IF ( /ATC . GT . . U11CU TU 232
63
64
              ZA1 /= 0.
              FATZ=0.
6
              2 AT L= 1.
6t
67
              FAIC=1.
         232 11 (20AL(1, J) .LE .. J1)ZCAL(1, J) = (ZATC-ZATZ)/ZATC
68
              IF (FCAL(I, J) .LE .. OI) FCAL(I, J) = (FATC-FATZ) / FATC
69
              1F(Y.EU.1) WRITE(6,130) CDATE(1,1), CDATE(1,2),
70
71
             +1, CTIME(1,J), J, ZCAL(1,J), FCAL(1,J), HCAL(1,J)
72
              GC T1 230
73
          235 GCAL=K-1
74
              00 10 200
75
              GRID DICTIONARY
76
          237 WRITE(6,135)
77
              1=0
78
          240 I=I+1
              READ(5,15,END=245) (DICTG(I,J),J=1,9)
79
              IF(1.EC.1) WRITE(6,120) (DICTG(1, J), J=1,9)
80
              GU TO 240
81
82
          245 MUICTG=1-1
              60 10 200
83
84
              TEST IDENTIFICATIONS
          247 NRTTE(6,140)
85
              1=0
36
87
          250 1=[+1
              READ(5,25,END=260)INUM(1,1),INUM(1,2),(LOC(1,J),J=1,5),
88
             +1DATE(1,1),TIME(I),IDATE(I,2),TEMP(1),DSMw(I),LOAD(I),
39
90
             +EAD(I), MSPORF(I,1), MSPORT(I,2), MOPUT(I,1), MGPUT(I,2)
91
              IF(I.EV.))WRITE(6,145)INUM(I,1),INUM(I,2),(LOC(I,J),J=1,5),
92
             +IUATE(1,1),TIME(1),IDATE(1,2),TEMP(1),DSMW(1),LOAD(1),
93
             +RAD(I), MSPORT(I,1), MSPORT(I,2), MOPUT(I,1), MOPUT(I,2)
94
              GC TJ 250
          1-1=201N 005
95
              Gu 11 230
96
97
          903 RETURN
              CIID
98
```

# A2.02 Subroutine NDTE

```
1
              SUBRUUTINE NOTE(ZVAL, FVAL, HVAL, NVAL, ZNSUMZ, DSME, EVAL, DSM, RAD)
 2
              DIMENSION ZVAL (NVAL) , FVAL (NVAL) , HVAL (NVAL)
 3
              DIMENSION 2(50), F(50), H(50)
 4
              DO 100 I=1,NVAL
 5
              J=NVAL-I+1
 6
              Z(J)=ZVAL(1)
 7
              F(J)=FVAL(I)
 8
              H(J)=HVAL(I)
 9
         100 CONTINUE
10
              N=NVAL
11
              N1=N-1
              SUMZ=(2(1)/(2.*F(1)))*(H(1)+H(2))/(2.*H(1))
12
13
              DO 210 1=2,N1
              SUMZ=SUMZ+(Z(I)/(2.*F(I)))*(H(I+1)-H(I-1))/(2.*H(I))
14
15
         210 CONTINUE
16
              SUM Z= SUMZ + Z(N)/(4.*F(N))
17
              ZNSUMZ=SUMZ
              DSM=F(1)/1000./Z(1)
18
19
              DSME=(F(1)/Z(1))+(2.+RAD+SUMZ)
20
              EVAL=1./(2.*RAD*SUMZ)
21
              RETURN
              END
22
```

# A2.03 Subroutine LINER

```
SUBROUTINE LINER (IPT, N, X, Y, NLOC, BZERG, BONE, ROE,
 1
 2
             +SPX, SPX2, SPY, SPY2, SPXY)
              DIMENSION IPT(N), X(NLCC), Y(NLCC)
 3
              DOUBLE PRECISION SUMX, SUMX2, SUMY, SUMY2, SUMXY, XD, YD, AN, SXX, SYY, SXY
 4
 5
               SUMX = 0.
 6
               SUMX2=0.
 7
               SUMY : 0.
 8
               SIIMY 2=0.
 0
               SUMXY=0.
10
               DO 100 IA=1.N
11
               I IPT(IA)
              XD X(I)
12
              YD Y(I)
13
14
               SUMX# SUMX+XD
15
               SUMX2 SUMX2+XD XD
16
              SUMY SUMY +YD
17
               SUMY2=SUMY2+YD=YD
               SUMXY* SUMXY+XD YD
18
19
          100 CONTINUE
20
              ANIN
21
               SPX=SUMX
22
               SPX2 SLMX2
23
               SPYSUMY
24
               SPY2=SUMY2
25
               SPXY=SLMXY
26
               SXX=SUMX2=SUMX*SUMX/AN
27
               SYY=SUMY2-SUMY=SUMY/AN
28
               SXY SUMXY-SUMX*SUMY/AN
29
               ROE SXY/DSQRT(SXX#SYY)
30
              XD=SXY/SXX
31
              BONE = XD
```

```
BZERC SUMY/AN-XDASUMX/AN
32
       C
33
              WRITE(6,5)
34
            5 FORMAT (///5X.
                                  N
                                        SUMX
                                                         SUMX 2
                                                                         SUMY
              +, 'SUMY2
                                 SUMXY'/1
35
              WRITE(6, 10) N, SUMX, SUMX2, SUMY, SUMY2, SUMXY
       C
36
37
           1C FORMAT(5X, 15, 5014.7)
38
              RETURN
39
               END
```

#### A2.04 Subroutine STAT

```
SUBROUTINE STAT(IPT, N, X, NLOC, AMEAN, CV, XMIN, XMAX)
 1
 2
              DIMENSION IPT(N), X(NLGC)
 3
              DOUBLE PRECISION SUM, SUM2, XD, AN, AN1, SDEV
 4
              SUM* O.
 5
              SUM2=0.
 6
              I=IPT(1)
 7
              XMIN X(I)
 8
             XMAX-X(I)
DG 100 IA-1, N
 9
10
              I-IPT(IA)
11
              IF(X(I).LT.XMIN)XMIN=X(I)
12
              IF(X(I).GT.XMAX)XMAX=X(I)
13
             (I)XEGX
14
              SUM-SUM+XD
15
              SUM2=SUM2+XD-XD
         100 CONTINUE
16
17
             ANEN
18
             AN1 N-1
19
             XD- SUM/AN
20
              SDEV-DSQRT((SUM2-ANEXCEXD)/AN1)
21
             AMEAN XD
22
             CV SDEV/XD
23
             RETURN
24
             END
```

#### A2.05 Subroutine NDT3

DU 600 J=1, ISEPAV

10.

103

```
JOBSESSION PRIVATE MODELE
164
              WZ=2.*200.*9.*VALC(KP.10)/SEVAL(J)
              IF (WZ.LT.WZH(1,11160 TO 520
115
              EV=PFLESG(1)*.75
106
          60 TO 540
520 DC 550 1=2.NFLESG
107
108
              1F( wZ . LT . wZH(1,1))GO TC 530
165
             EV=(PFLESG(I)-PFLESG(I-1))*(WZ-WZH(1,I-1))
+/(WZH(1,I)-WZH(1,I-1))+PFLESG(I-1)
111
111
112
              GU TO 540
113
          530 CONTINUE
              EV=PFLESG(NFLESG) *1.25
114
          540 IF (MURAIN (J). EQ. MNORM) GC TO 550
115
116
              IS=J
117
              I1=ISEPAV+J
118
              EPAV(II)=SEVAL(J)
119
              FSUB(II)=EV
120
              ESUB(J)=EV/.6
              CC TO 560
121
122
          550 IS=1SEPAV+J
123
              CPAV(J)=SEVAL(J)
124
              FSUB(J)=EV
125
              I1=ISEPAV+J
126
              ESUB(II) = . 6 *EV
          560 IF(ESUB(IS).GT.PFLESG(1))GO TO 570
127
1.28
              WZA=WZH(1,1)+.25*(WZH(1,1)-WZH(1,2))
129
              GO TO 590
          570 UT 580 I=2.NFLESG
130
              IF (ESUB(IS).GT.PFLESG(I))GO TO 580
131
              WZA=(WZH(1,1)-WZH(1,1-1))*(ESUB(IS)-PFLESG(I-1))
132
133
             +/(PFLESG(1)-PFLESG(I-1))+WZH(1,I-1)
134
              60 TO 590
135
          580 CONTINUE
136
              wZA=wZH(1,NFLESG)-.25*(wZH(1,NFLESG-1)-WZH(1,NFLESG))
          590 EPAV(IS)=SEVAL(J)*WZ/WZA
137
138
          600 CENTINUE
```

IF(K.HE.IPFL(J))GU TO 600

# A2.06 Subroutine CALC(1)

```
( ** APY
123
124
                APY(1)=0.
125
               N=NWHEEL(I)
               DO 420 J=1.N
126
127
               IF (WHEELX (I, J) . NE. U. ) GO TO 420
               APY([]=APY(1)+EXP(-(WHEELY(1,J)/(12.*450.))**2/2.)
128
125
           420 CCNTINUE
130
               00 450 J=1.3
131
         C *** RADIUS FACTOR
               RADIUS(1, J) = SQRT(.31 83 0587EC*DPWG T(L, J) *AIRC(1, 5) /AIRC(1, 6))
122
133
               FACTUR(I, J)=0.
                T1=(3./H.)**2
134
135
               T2=(15./48.)**2
               DU 440 K=1.N
136
               wX= SORT (ABS (WHEELX(I,K) **2) +ABS (WHEELY (I,K) **2))
137
138
                1F( MX . NE. 0 . 160 TO 430
               FACTOR (1, J) = FACTOR(I, J) +1.
139
14
               GU TO 440
141
           430 YK= (RADIUS (I. J)/WX)**2
                WK=1.5708*(1.+.25*YK+T1.*YK**2+T2*YK**3)
142
                WE=1.5708*(1.-.25*YK-T1*YK**2/3.-T2*YK**3/5.)
143
144
               FIRM= 2./3.14159*WX/RADIUS(I,J)*(WE-(1-YK)*WK)
145
               FACTOR (I, J) = FACTOR(I, J) +FIRM
146
           440 CUNTINUE
147
           450 CONTINUE
                APY([]=APY([] *.00157*RADIUS([,3]/12.
149
149
           460 CONTINUE
150
                ID= IDESI(1)
               RADIUS (20,1)=SQRT (.3183 0987E0*DJP WGT (1)*AIRC(ID.5)/AIRC(ID.6))
151
         ( *** APX
152
153
               00 560 K=1.NBAND
                IAPX=NTYPE*(K-1)
154
155
               DC 550 LA=1,NTYPE
                L=IAPX+LA
15€
               DO 540 M=1.NUPWGT
157
158
                I=IAIRC(M)
159
               IF(1.L2.0)GC TO 540
161
               NW=NWHEEL(I)
161
               DE 531 J=1.3
162
                APX(I,J,L)=0.
163
               DO 520 N=1.NW
               APX (I, J, L) = APX(I, J, L) +EXP(-10.8157*
164
165
              +(WHEELX(I,N)/(12.*BAND(K,LA)))**2)
166
           520 CONTINUE
               APX(I, J, L) = APX(I, J, L) *3.2885 *RADIUS(I, J)/(12. *BANC(K, LA))
167
           530 CONTINUE
168
           540 CCNTINUE
164
```

# A2.07 Subroutine CALC(2)

```
56
        L *** PAVL COOF LAYS
 57
               CL 261 I=1. VPAVL
           230 MENLAYFIL(1)
 58
               DC 250 J=1.N
 59
 Li
               D. 2+0 K=1, NLAY
 61
               IFILAYER(I. J. 1) . NE . MLAY (K. 1) IGU TO 240
 62
               IF (LAYER(1, J, 2) . NE. MLAY (K, 2) 160 TO 240
 63
               ILAYER(I,J)=K
               IF([/AL(I,J).LT.1.)@VAL(I,J)=VALAY(K,1)
1.4
 55
               IF(PDIS(I,J).LT.J.001)PCIS(I,J)=.65-.08*ALOG10(EVAL(I,J))
 66
               GC TO 250
 67
           24) CUNTINUE
68
        L *** EKKER
65
           250 CONTINUS
 70
           260 CONTINUE
 71
        C *** AIRC CODE TOW
 72
               UG 255 I=1, MAIRC
 73
               IALF(1)=0
 7+
               IF 1NGE(1)=0
 75
          255 CONTINUE
 76
               DO 270 K=1 , NOPWGT
 77
               1=IAIRC(K)
78
               IF(I.LE.0)GC TO 270
 75
               IKANG: (I)=1
38
               IFILRANGE (K, 1) . NE. IBLANKIGO TO 261
81
               LRANGE(K, 1) = MRANG(I,1)
32
               LRANGE(K, 2) = MPANG(I, 2)
 83
          261 DO 262 J=1,4
               IF(LRANGE(K,1).NE.MRANGE(J))GD TO 262
84
85
               IRANGE(I)=J
 36
               GL TO 252
           262 CLNTINUE
87
88
          263 IALF(1)=1
85
               IF(LALF(K, 1).EQ.MALF(2))IALF(1)=2
90
               L=IALF(I)
 91
               J= IRANCE(I)
92
               IF (LALF(K, 1). EQ. ISLANK. AND. TOW(J, I, L). GT. 1.
93
              +.AND.UPWGT(K,1).LT.1.)LALF(K,1)=MALF(1)
94
               IF(TOW(J,I,1).LT.1..AND.OPWGT(K,1).LT.1.)OPWGT(K,1)=AIRC(I,1)
95
               1F (CPWGT (K, 1) . LT . 1 . ) OPWGT (K, 1) = TOW(J, I, L)
96
               1F(3P wGT(K,2).LT.1.)OPWGT(K,2)=(AIRC(I,2)-AIRC(I,3))
97
              +*(CPNGT(K,1)-AIRC(I,3))/(AIRC(I,1)-AIRC(I,3))+AIRC(I,3)
98
               IF(OPWGT(K,3).LT.1.10PWGT(K,3)=1.5*OPWGT(K,2)
          270 CONTINUE
.99
```

#### A2.08 Subroutine PAVDES

```
350
         1317 ELAY=EVAL (KM, IHSA)
351
               EBOT=EVAL (KM.NL)
         1318 CONSTA=VALC(KB,2)*SQRT(ELAY)*VALC(KB,3)*(1.-VALC(KB,4))
352
353
               DG 1330 IA=1.NOPWGT
354
               I=IAIRC(IA)
               IF(1.LE.0)GO TO 1330
355
356
               DO 1320 J=1,3
357
               ANS(I,J)=-(ABS(STRFD(KAA))-ABS(STRFAM(I,J)))/CONSTA
358
         1320 CONTINUE
355
         1330 CONTINUE
36C
               ANS (20,1)=0.
361
               DO 1350 IA=1, NOPWGT
362
               1=IAIRC(IA)
               IF(I.LE.0)GO TO 1350
363
               DO 1340 J=1.3
364
               FACTOR(I, J) = WZFAM(I, J) / WZW(I, J)
365
               PRESS = AIRC(I,6) * FACTOR(I,J)
366
               WO=2. *PRESS*RADIUS(I, J) *VALC(KB, 10)/EBOT
367
               D4=1./VALC(KB.8)
368
               DODEF=WO**(1.-D4)*WZFAM(I,J)**D4*VALC(K8,7)**(-D4)
369
               AND (I, J) = DODEF
370
         1340 CONTINUE
371
372
         1350 CONTINUE
373
               FACTOR(20,1)=WZFD(KAA)/WZWFD(KAA)
374
               PRESS=AIRC(ID.6)*FACTOR(20.1)
375
               WC=2.*PRESS*RADIUS(20,1)*VALC(KB,10)/EBOT
               AND(20,1)=WO**(1.-D4)*WZFD(KAA)**D4*VALC(KB,7)**(-D4)
376
383
               DO 1376 I=1.NPAVHD
               IF(IPAVLII).EQ.ICLIGO TC 1374
384
385
               IF(IPAVL(I).GT.ICL)GO TO 1372
386
               REWIND 9
387
               ICL =0
         1372 ICL=ICL+1
388
               IF(IFAMDS(ICL,1).LE.OJGC TO 1372
389
               READ(9)((ANS(IA, J), AND(IA, J), FACTOR(IA, J), IA=1,20), J=1,3)
390
391
               IF(IPAVL(I).NE.ICL)GO TC 1372
         1374 WRITE(12)({ANS(IA.J).AND(IA.J).FACTOR(IA.J).IA=1.20).J=1.3)
392
393
         1376 CONTINUE
               ENDFILE 12
394
               REWIND 12
395
               REWIND 9
396
397
               REWIND L18
398
               NSLP=FINA(6)
               ASCM=(FINA(4)+FINA(3)-FINA(2))-FINA(2)*(FINA(3)+FINA(4))
399
400
               PCVAMC=FLOAT(NSLP-1)+(1.+FLOAT!NSLP-2)+ASCM/2.+
              +(1.+FLOAT(NSLP-3) *ASCM/3.))
401
402
               AIRBV=1.-1./(1.+FINA(1))
               PCVICC=1.-(FINA(5)-2.)*(FINA(2)-A IRBV)/2.*
403
              +(1.-(FINA(5)-3.)*FINA(2)/3.)
404
```

```
A2.09 Subroutine FAM
       0 1 415 J=1.3
       ARSA(I,J)=10.**(ANS(I,J)/(O/ERSE/(1.+DI(LOC.ITYP))))
   415 CONTINUE
      0 429 J=1.3
       CUNST = 2.28
       C1 = .01
 (
      GD= SQRT (DI(LGC, ITYP)/(1.+DI(LCC, ITYP)))
.
       VV=00*VEL(LOC,17YP)+60.*(1.-00)
       XX=8.6*FACTOR([,J)+XNZ([])/KADIUS([,J)
 1
       AK=CUNST/VV*DI(LOC, ITYP)/SQRT(AIRC(I,7))
 (
 (
       MAK=10.**(VALC(KP.5)*ALCG10(AK/VALC(KP.6)))
       DI.=12.* \aK*SQRT(XX*RADILS(1,1)/12.)
 (
       AULB(I,J) = (DK-CI)/AUD(I,J)
       AndA(1,J)=10.**((AND(1,J)-AND(26,1))/AND(1,J))
   421 CONTINUE
      TE(KPAV(KP).LE.1)ARITE(6,40)DI(LGC, ITYP), VEL(LGC, ITYP),
      +(FACTOR(I, J), J=1,3), XNZ(I), (RADIUS(I, J), J=1,3), AIRC(I,7),
(
      +VALC(KP,5), VALC(KP,6)
   40 FORMAT(1X,12F11.6)
   425 CONTINUE
       XX=8.5*FACTUR(20,1)+XNZ(10)/RADIUS(20,1)
       AK=COMST/VV*DI(LOC, ITYP)/SQRT(AIRC(10,7))
 L
 (
       AAK=10.44 (VALC(KP,5)*ALCG10(AK/VALC(KP,6)))
       DN=12.*AAK#SQRT(XX*RADIUS(20,1)/12.)
 L
       41.08(20,1)=(UN-C1)/4ND(20,1)
 (
       AND4(20,1)=1.
 (
       IF (KPAV(KP).LE.1)
      +WRITE(6,30)((AND(I,J),J=1,3),1=1,12)
 (
      IF(KPAV(KP).L5.1)
      +WPITE(6,30)AND(20,1)
 (
    30 FOFMAT(1X, 1P6E13.5)
       00 600 K=1.NST1
       DU 440 IN=1 NEPWOT
 (
 (
       I=IAIRC(IA)
 C
       IF(1.LE.0)GC TO 440
       DC 450 J=1,3
 (
       ANDALL.J)=J.
       IF (AT W(K, IA, J). LE. 0. G001) GC TO 430
 (
       ANDA(1, 1)=10.**((ANDB(20, 1)-ANDB(1, J))
```

91

92

93 9:

95

110

97

93

99

100

101

192

103 104

105

1116

1.7

11 3

109

110

111

112

113

114

115

110

1:7

118

119

120 121

123

123

124

125

126

127

128

129

130 131

132 133

134 135

136

137

138

139

140

+)

( \*\*\* 4445

C 430 CONTINUE

C 440 CONTINUE MANAGEMENT CONTINUES.

D. 47 IA=1 NUPWGT

IF(1.LE. ) JGC TO 470

DC 450 J=1.3 450 SEQMUV(J)=0.

I=IAIRC(IA)

DC 450 J=1,2

TUS(1,J)=ATM(K,14,J)\*ANSA(1,J)\*APX(1,J,1APX).

+\*ALOG10(ATM(K,IA,J)\*APX(I,J,IAPX))/ANDB(20,1))

# A2.09 Subroutine FAM (cont'd)

```
141
               SEGM 3V(J) =5EGMGV(J)+ATM(K,IA,J)*ANSA(I,J)*APX(I,J,IAPX)
142
           400 CURTINUE
               J=3
143
144
               .05(1,J)=0.
145
               IF(M: 67.2) EUS(1, J) = ATM(K, IA, J) *ANSA(1, J) *APX(1, J, IAPX)
              +*APY(1)
146
147
               IF(N:.GT.2)SECMOV(J)=SECMOV(J)+ATM(K,[A,J)*ANSA([,])*
140
              (I) YYAX*(XAAI, U, I) XAA+
145
           470 CENTINUE
15:
               AANS(K.LUC)=0.
151
               D. 480 J=1.NW
152
               AANS(K, LUC) = AANS(K, LOC) + SEGMUV(J)
153
           48. CHITINUE
154
               AAMS(K, LOC) = AANS(K, LOC) *SPERC(LOC)
         i *** AANU
155
150
               D. 490 J=1.3
           490 DEGALV(J) =0.
-51
158
               DU 51. 14=1, MCPWGT
               I=IAIKC(IA)
155
               IF(I.LL.")GG TO 510
ich
161
               D: 500 J=1,2
16:
               EQD(1.J)=0.
               ALMD= 1.
16:
164
               IF (ATM(K, IA, J).GT.0.1)
165
              +ALMO=ALCGIO(ATM(K,IA,J)*APX(I,J,IAPX))
               IF (ALMO.GT.3.)ALNO=3.
166
167
               IF (ATM(K.IA.J).GT.O.1)
              +560(1,J)=(ANDA(1,J)**ALND)
166
              +*ATM(K,1:,J)*APX(1,J,1APX)
165
170
               O(L, I) DOS+(L) VOMOSD=(L) VCFOSG
171
           500 CONTINUE
172
               1=3
               EQD(I,J)=(.
172
               ALMC=1.
174
175
               IF (Por. GT. 2. ANC. ATM(K, IA, J). GT. G. 1)
              +ALNC=ALOGIC(ATM(K,IA,J)*APX(I,J,IAPX)*APY(I))
176
177
               IF (ALNO.GT.3.)ALNO=3.
178
               IF (NW.GT.2. AND.ATM(K, IA, J).GT.O.1)
179
              +EQD(I,J)=(ANDA(I,J)**ALND)
              +*ATM(K, IA, J) *APX(I, J, IAPX) *APY(I)
18
               IF (NN.GT.2) DEQMOV(J)=DECMOV(J)+EQC(I,J)
181
           51. CONTINUE
182
163
               AAME(K, LOC)=0.
184
               DL 520 J=1,NW
185
               AAND(K, LUC) = AAND(K, LOC) +DEQMOV(J)
           520 CONTINUE
1,8€
187
               AAND(K,LOC)=AAND(K,LOC)*SPERC(LOC)
```

#### A2.10 Subroutine HDES

```
51
        C *** STRESS LIMIT
52
              NL=NLAYER (KM)
              NL1=NL-1
53
54
              DU 190 J=1.NL1
55
              STRL(K,LOC,J)=SQRT(EVAL(KM,J))+(1.-VALC(KP,3)*
56
             +ALOG10(AANS(K, LGC)))/(1.+DI(LOC, ITYP))
57
              STRL(K,LOC,J) =STRL(K,LCC,J) *VALC(KP,2)
58
              CVERSF=VALC(KP,1)
59
              IF(LOC.GT.1)OVERSF=VALC(KP,9)
              STRL(K,LOC, J) = STRL(K, LCC, J) *OVERS F* (1. - VALC (KP, 4))
60
61
          190 CONTINUE
              IF(KN.LE.O)GO TO 197
62
63
              NLA=NPSLAY (KN)
64
              NLA1=NLA-1
65
              DO 195 J1=1.NLA1
66
              J=J1+NL1
67
              STRL(K, LOC, J) = SQRT(PSLE(KN, J1)) * (1. - VALC(KP, 3) *
68
             +ALOGIO (AANS (K, LOC)))/(1.+DI(LOC, ITYP))
69
              STRL(K,LOC, J) = STRL(K, LOC, J) *VALC(KP,2)
70
              OVERSF=VALCIKP.1)
71
              IF (LOC.GT.1) OVERSF=VALC (KP,9)
              STRL(K, LOC, J) = STRL(K, LOC, J) *OVERS F*(1.-VALC(KP, 4))
72
73
          195 CONTINUE
        C *** WZL
74
75
          197 CONST = 2.28
76
              C1=.01
              XX=8.6*FACTOR(20,1)+XNZ(ID)/RADIUS(20,1)
77
78
              PRESS=AIRC(ID,6)*FACTOR(20,1)
79
              DD=SQRT(DI(LOC.ITYP)/(1.+DI(LOC.ITYP)))
80
              VV=CD*VEL(LCC,ITYP)+60.*(1.-DD)
              AK=CONST/VV*DI(LOC, ITYP)/SQRT(AIRC(ID,7))
81
              WRITE(6,20)KP, AK, VALC(KP,6)
82
83
           20 FORMAT(1X, 15, 2F10.4)
              AAK=10. ** (VALC(KP, 5) *ALGG10(AK/VALC(KP, 6)))
84
85
              DN=12. *AAK * SQRT ( XX * RAD I US ( 20, 1 ) / 12. )
86
              EBGT=EVAL (KM, NL)
              IF (KN.GT.O) EBOT=PSLE(KN,NLA)
87
88
              WC=2.*PRESS*RADIUS(20,1)*VALC(KP,10)/EBOT
89
              D3=VALC(KP,7)*WD**(1.-VALC(KP,8))
90
              IF(AAND(K,LUC).LE.10.)WZL(K,LOC)=(DN-C1)**VALC(KP,8)
91
              IF ( AAND(K, LOC) .GT .10.)
             +wZL(K,LUC)=((DN-C1)/ALUG10(AAND(K,LUC)))**VALC(KP,8)
92
93
              D4=1./VALC(KP.8)
94
              DODEF = VALC (KP , 7) ** (-04)
95
              IF(NXSL.LE.1)WZL(K,LOC)=(DN-C1)
96
         *** WU AND D3 TO BE CALCULATED LATER
97
        C *** SHOULD USE ESUP
```

```
169
           360 IST=IST-1
170
           370 I1= IEST+IES
171
               ESUP(K) = ESUB(II)
172
               NL=NLAYER (KM)
173
               NL1=NL-1
174
               PRESS = AIR C(ID, 6) * FACTOR (20,1)
175
               WO=2.*PRESS*RADIUS(20,1)*VALC(KP,10)/ESUP(K)
176
               D3=VALC(KP,7)*WG**(1.-VALC(KP,8))
177
               U4=1./VALC(KP.8)
178
               LOC2=2
179
               IF(NXSL.LE.1)GO TO 501
180
               DO 373 LOC=1.LOC2
181
               WZLIM(K,LOC)=D3*WZL(IST,LOC)
182
               TAND(K, LOC) = AAND(IST, LOC)
183
               TANS(K, LUC) = AANS(IST, LOC)
184
               DC 371 J=1.NL1
               STRLIM(K, LOC, J)=STRL(IST, LOC, J)
185
           371 CONTINUE
186
               IF(KN.LE.O)GO TO 373
187
188
               DG 372 J1=1,NLA1
189
               J=J1+NL1
190
               STRLIM(K, LOC, J)=STRL(IST, LOC, J)
191
           372 CONTINUE
192
           373 CONTINUE
193
        C *** INTERPOLATE EVALUE
194
               IF(ESUB(11).GT.ESUBG(1))GO TO 375
         C *** ERROR
195
           375 DG 380 I=2.NE
196
197
               IF(ESUB(III).EQ.ESUBG(II)GO TO 390
198
               IF(ESUB(II).LT.ESUBG(I))GO TO 410
199
           380 CONTINUE
200
         C *** ERROR
201
               I=NE
202
               GU TO 410
203
           390 DG 400 N=1,NHG
204
               WZ(N) = WZH(N, I)
205
               STR(N)=STRH(N.1)
206
           400 CONTINUE
207
               GO TO 422
208
           410 00 420 N=1.NHG
209
               WZ(N) = (WZH(N, I) - WZH(N, I-1)) * (ESUB(I1) - ESUBG(I-1))
210
              +/(ESUBG(I)-ESUBG(I-1))+WZH(N, [-1)
               STR (N)=(STRH(N, I)-STRH(N, I-1))*(ESUB(I1)-ESUBG(I-1))
211
212
              +/(ESUBG(I)-ESUBG(I-1))+STRH(N,I-1)
           420 CONTINUE
213
214
           422 DO 500 J=1.2
215
               IF(WZLIM(K, J).LT.WZ(1))GD TO 425
216
               HDES(K, J) = HVAL(KM, 1)
217
               GU TU 460
218
           425 00 430 N=2.NHG
219
               IF(WZLIM(K, J).GE.WZ(N))GO TO 450
220
           430 CUNTINUE
```

```
221
               HDES(K, J)=HVAL(KM, 2)+HVAL(KM, 3)/2.
222
               ICRIT(K,J)=-1
223
               GU 10 500
224
          450 HDES(K,J)=(HGRID(KM,N)-FGRID(KM,N-1))*(WZLIM(K,J)-WZ(N-1))
225
              +/(WZ(N)-WZ(N-1))+HGRID(KM,N-1)
226
          460 IH= IPAVHS (KI)
227
               IF(KN.GT.O)IH=IH+NL1
               IF(STRLIM(K, J, IH).LT.STR(1))GO TO 465
228
229
               H=H VAL (KM.1)
23C
               GC TO 480
231
          465 DU 470 N=2 NHG
232
               IF(STRLIM(K, J, IH) .GE. STR(N) )GO TO 475
233
          470 CONTINUE
234
              HDES(K, J) = HVAL(KM, 2) + HVAL(KM, 3)/2.
235
               ICRIT(K, J)=1
236
               GO TO 500
          475 H=(HGRID(KM,N)-HGRID(KM,N-1))*(STRLIM(K,J,IH)-STR(N-1))
237
238
              +/(STR(N)-STR(N-1))+HGRID(KM,N-1)
239
          480 ICRIT(K, J) =-1
240
               IF(HDES(K,J).GT.H)GO TO 500
241
              HDES(K, J) =H
242
               ICRIT(K, J)=1
243
          500 CONTINUE
              GU TO 510
244
245
          501 IP=IPFL(I1)
               IF(ESUP(K).GT.PFLESG(1))GO TO 502
246
247
               WZ(IP)=WZH(IP,1)+.25*(WZH(IP,1)-WZH(IP,2))
248
               STR(IP)=STRH(IP,1)+.25*(STRH(IP,1)-STRH(IP,2))
249
               GO TO 504
          502 DO 503 I=2.NFLESG
25 C
251
               IF(ESUP(K).GT.PFLESG(I))GO TO 503
252
               WZ(IP) = (WZH(IP,I) - WZH(IP,I-1)) * (ESUP(K) - PFLESG(I-1))
253
              +/(PFLESG(I)-PFLESG(I-1))+WZH(IP,I-1)
254
               STR(IP) = (STRH(IP, I) - STRH(IP, I-1)) *(ESUP(K) - PFLESG(I-1))
255
              +/(PFLESG(I)-PFLESG(I-1))+STRH(IP, I-1)
               GD TO 504
256
257
           503 CONTINUE
               WZ(IP)=WZH(IP,NFLESG)-.25*(WZH(IP,NFLESG-1)-WZH(IP,NFLESG))
258
259
               STR(IP)=STRH(IP,NFLESG)-.25*(STRH(IP,NFLESG-1)-STRH(IP,NFLESG))
260
        C 504 DCDEF=W0**(1.-D4)*W2(IP)**D4*VALC(KP,7)**(-D4)
           5C4 DODEF=ESUB(II)/(VALC(KP,7)*EPAV(II))
261
262
               DODEF=WO*10.**(D4*ALOG10(DODEF))
263
               TAND(K,1) = AAND(IST,1)
               TAND(K,2)=10.**(WZL(IST,1)/DODEF)
264
265
               TAND(K,2) = (WZL(IST,1)/DCDEF)
266
               IF( TAND(K,2).GT.30.) TANC(K,2)=30.
               TANC(K,2)=10.**TAND(K,2)
267
               TANS(K,1) = AANS(IST,1)
268
269
               IH= IHS (IP)
               SIGY=VALC(KP,1)*(1.-VALC(KP,4))*VALC(KP,2)*SQRT(EVAL(IP,IH))
27C
               SIGY=SIGY/(1.+DI(1,ITYP))
271
               TANS(K,2)=10.**((SIGY-STR(IP))/(VALC(KP,3)*SIGY))
        C
272
               TANS(K,2) = ((SIGY-STR(IP))/(VALC(KP,3)*SIGY))
273
274
               TANS(K,2)=10.**TANS(K,2)
           510 CONTINUE
275
```

# A2.11 Subroutine PCVCAL

```
). 300 LUL-1.2
40
4 5
               13 236 3=1,45,571
               1 - 5 A= 1 PAVIS ( + 1)
1 1
               In (Ki.LE. G) LL DY=LVaL(Ka, IHSA)
+ 1
               IF (KI.GT. O) EL ATEPSLE (KII, IHSA)
4
               1+ (KM.J1.0) 1.15A=1.15A+NLAYEP (KM)-1
4. 1.
               Fit= [45 (2.1)
40
44
               IL= ILAYER (KA, I.t)
               AICCEX, LOC) = COSI(KM) + HDES(K, LOC) * UL(IL)
51
               JUSTR-VALC (KP,2) # SORT (ELAY) #(1.-YALG(KP,4))
· . .
               ... STREULSTONIA-VALCIAP, 3) *ALUGIO (TAMS (K, LOC)))
               EVELSE=VALC(KP,1)
               IF ( E IC. ST. 1) CVEP SF = VALC (KP.9)
54
               ZAC=VALC(KP,4)*OVEXSF#IULSTR-XCSTR)/(ULSTR-STRLIM(K,UGC,IHSA)
55
5. 0
              +/UVERSE)
               AMC (X, LOC) = 24000L(1L)
51
               PUV(A, LOU) = A4C( *, LOU) * PUVA4C + A1CC(K, LOC) * PCVICS
55
          200 CONTINUE
5%
60
          300 CENTIMUE
               1E (ESTALLXFAU, 2). GT. D. OC) 90 10 320
61
               APC/(1)=PLV(1,1)
62
               APCV(2)=PCV(1,2)
6 1
               36 14 9 13
6 4
6.
           320 00 400 006=1,2
1.1
               APCV(LGG)=0.
               DI 350 K=1.NASTI
01
               APEVILOC) = APEVILOC) + PEVIK, LOC) * (ASTA(K+1) - ASTA(K))
60
69
          350 CONTINUE
               APC V(LCC) = APC V(LUC) / (ASTA (NAST) - ASTA(1))
70
1:
           400 CGLTIHUE
```

# A2.12 Subroutine COBEL

```
( see The 15 LE HEELY
                DE 21 10 K=1, MASTI
207
585
               THEELY (K, IKI-PCV(K, !)
          274. (M.7190)
18
          745 6 11 01
-61
388
               15 (LA.M. . LZ)60 17 276
335
               IN. R1=11.05 4+1
               IF(In Fx. L.C. 1)6. To 270
200
39,
                1. 41. K ; =1)
               LIYF=ITYPL(IXFAC)
152
300
               WY - TL = DAML (IXBA.D. IIYP) + XMAX/12.
341
               KEENS (LINIUTH (LIYP)
3 77
               I= " PAVK+1
19:
               IF (IP AVAS (IXFAC) . GT. D ) GC TO 2452
397
               DO 2450 I=1.NPAVK
348
               IK=IPAVK(I,1)
391
               18=1PAVK(1,2)
11
                18 (121) 28 (18) . 40. ISUB | GL TO 245?
40.17
               11 (13.15.0) GU TU 2452
                IF (IETYPELIS).NE. ISUBJEC TO 2452
402
403
          2450 CUNTINUE
                I= ! PAVK+1
+ 4
415
          2452 HEK=I-1
               DI 264 1=1.NPK
+1 .
               IK= 1PAYK(1,1).
4: 7
                IS=IPAVK(.I,2).
41.8
419
               WAPCV(I)=0.
410
               IF (APCVA(IK, 1). LE.O.O)GC TO 260
               IF (FSTA(IMFAC, 2).GT. ). 001GO TO 246
+11
                "APCV(1) = APCVA(IK.1)
412
11 3
               GC TO 260
           240 APEVT = APEVA(IK, 1)
414
                IF(IS.LE.01GO 10 2460
41 5
                IF(ISTYPE(IK).NE.ISUB.OR.IETYPE(IS).LQ.ISUB)GD TQ 249
416
          2460 126 VT=0.
+17
               00 2452 J=1 . IAST1
+16
               KC=1P40(J)
410
420
               KITE TP AVHO (KC, 2)
                APOVT=APOVT+(NHOSLY(J,IK)+COSTP(KN)*POVICO)*(ASTA(J+1)-ASTA(J))
te 1
422
          2462 CONTI NUE
                APE VERAPEVT/(ASTA(NAST)-ASTA(1))
+2 -
                18 (15 . 61 . C) GE T9 249
+=4
                UL 247 J=1,111.4Y
125
42:
                IF (MLAY (J.1). 20. [PAV) GO TC 248
427
           247 CCHTINUE
               GO TO 200
420
           TAR SAPCV(1)-APCVA(IK,1)*50./klDlH(ITYF)+PCVICC*UL(J)
429
           SAN APCV(1)=APCVT*VK+PCVICC*UL(1)
45:
               GC T' 250
101
           249 IF (APEVALIS, 2) . LS. 0.0 ) GE TO 260
437
           25 NAPCV(1)=(SCEC(1)+(1.-SCEC(1))*AK)*APCVT
433
                MIPCV(I)=WAPCV(I)+(I.-SEFE(I))*(I.-WK)*APCVA(IS,2)
434
```